

Utilization of Health & Family Planning Services in Bihar, Gujarat and Kerala

A Task Force Study



**INDIAN COUNCIL OF MEDICAL RESEARCH
NEW DELHI**

1988

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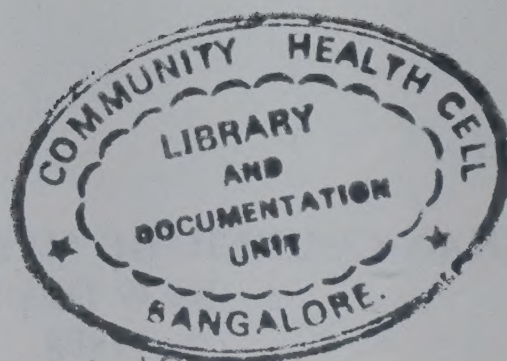
A Task Force Study

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Contents

Page

Foreword

Acknowledgements

CHAPTER 1

Introduction	1- 8
The Problem	2
The Objectives	
Design of the Study	

CHAPTER 2

Description of the Study Areas and Profile of Beneficiaries	9- 20
Social Contours of the Study Areas	9
Demographic Characteristics of Beneficiaries	12
Social & Economic Characteristics	13
Cumulative Fertility and Number of Surviving Children	17

CHAPTER 3

Knowledge & Utilization of Health Services	21- 43
Knowledge of Diseases and Associated Preventive Care	21
Awareness of Various Services Provided by PHCs	26
Utilization of Health Services	28
Coverage of Mothers and Children under MCH Care	37

CHAPTER 4

Knowledge, Attitude and Practice of Family Planning	44- 49
Awareness of Family Planning Methods	44
Attitude Towards Family Planning	45
Who Motivated Couples for Contraception?	47
Place of Operation	48
Follow-up Services	49

CHAPTER 5

Location of PHCs, Their Infrastructures and Accessibility	50- 58
Selected PHCs and their Infrastructure	50

CHAPTER 6

Profile of Change Agents & Their Opinion About Various F.P. Methods	59- 68
Social, Demographic & Economic Profile of Change Agents	59
Professional Training	62
Family Size Norms and Family Planning Practices	64
Perceptions of the Functionaries about Various Family Planning Methods	65

CHAPTER 7

Work Style, Supervision and Support from other Developmental Agencies	69- 81
Perceived Roles of the Field Workers	69
Work Style	71
Method of Motivation & Persuasion	73
Supervision	77
Level of Support from other Developmental Agencies	79

CHAPTER 8

Change Agent—Client Interface	82- 88
Change Agent—Clients Contact	82
Sex of the Functionaries and the Persons Contacted	83
People's Opinion about the Usefulness of the Workers' Visits	84
People's Opinion about the Workers	85
Problems Faced by Change Agents & their Perceptions about the Clients	87

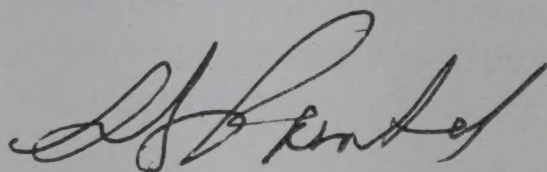
CHAPTER 9

Summary Conclusions and Recommendations	89-100
Summary Conclusions	89
Recommendations	94
Bibliography	94

Foreword

Our national health and family planning programmes are faced with the problem of poor utilization of the available primary health care including family planning services. The infant and maternal mortality as well as the birth rates still continue to be high. Despite the overall decline in these rates at national level, few states like Kerala, Maharashtra present better picture while the others like U.P., Bihar illustrate frustrating examples.

In order to understand the differential utilization of health care services and factors responsible for this, the Council sponsored a study which was carried out in the states of Bihar, Gujarat and Kerala by the Operations Research Group, Baroda. The findings of the study presented in this report are expected to benefit the programme planners and managers at different levels in order to improve the delivery and utilization of primary health care in rural areas.



A.S. Paintal
Director General

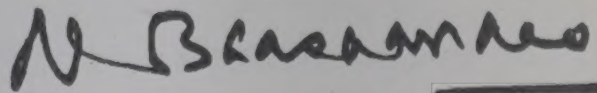
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The Government of India has been striving hard to strengthen the rural health infrastructure in order to achieve the goals set for "Health for all by 2000 AD". To cater to the rural health needs, as of mid 1988, there were about 16454 Primary Health Centres (PHCs) and 109791 Sub-centres. Despite such an increase in the infrastructure, the achievements in reducing infant and maternal mortality as well as promoting contraception in rural areas were not in proportion. Further, considerable variations persist among the regions in achieving the health and family planning targets, irrespective of the extent of such infrastructure.

To streamline these variations and give a further fillip to the programmes, obviously it is necessary to understand the functioning of the PHCs and the extent and nature of their utilization in rural areas. Identification and understanding of factors responsible for under-utilization of the health infrastructure is first step to initiate any remedial measure. Considering the importance of this, the Indian Council of Medical Research took the initiative of sponsoring a study which was carried out by Operations Research Group, the findings of which are given in the present report.

I want to take this opportunity to thank Dr. V. Ramalingaswami, the then Director General of ICMR, Dr. A.S. Paintal, the present Director General of ICMR and Dr. Badri N. Saxena, Senior Dy. Director General, ICMR, who in particular encouraged us to undertake this study and provided all the requisite funding. We are also thankful to the members of the ICMR Task Force on Psycho-social Research in Family Planning, who extended their expert comments during the progress of the study. Comments and suggestions from Dr. R.N. Gupta, Senior Research Officer, ICMR on the draft report were very useful and helped in finalising the same.

We are also thankful to various health officials of Bihar, Gujarat and Kerala, particularly, District Medical Officers/Civil Surgeons and MOs in-charge of PHCs where the study was carried out for their assistance extended during the field work. The study offers several insights into the dynamics of health system in the context of rural India and the challenges faced in achieving the goals.



N. Bhaskara Rao
President
Operations Research Group
Baroda

CHAPTER 1

Introduction

As a result of improved public health services the mortality rate in India has declined considerably. Although, it is a welcome development, this decline in absence of a corresponding decline in fertility has resulted in higher rate of population growth. This ever growing population has been threatening to offset the impact of the progress the country has made and thereby posing serious impediments to the governmental efforts towards raising the living standard of the people.

The planners and policy makers of the country were concerned about this problem since independence and as early as in 1950 they recognized family planning as an immediate measure to arrest the growing population. Initially, the *clinic* approach was adopted by establishing the sterilization centres mainly in urban areas and mobile units/camps in rural areas. However, later on, it was realised that mere *clinic* approach would not solve the purpose as people might not adopt contraceptives automatically. As a result, the *extension* approach was adopted in 1963 and need of educational and motivational efforts was emphasized. Door to door visits, interpersonal communication and group meetings were adopted as the working strategies. The Auxiliary Nurse Midwives (ANMs) and Family Planning Health Assistants (FPHAs) were posted in rural areas to promote small family norms and to make contraceptives easily accessible to the people. An evaluation conducted in 1973 by the then Union Ministry of Health and Family Planning, New Delhi, revealed poor performance of the workers in achieving their sterilization targets and indicated that low level of education and inadequate training of the functionaries, lack of professional supervision and finally, the workers had nothing to offer to couple except giving them family planning message were responsible for their low performance. To over come some of these limitations, the Multi-purpose Worker (MPW). Scheme was introduced into the health & family planning programme during the Fifth Five Year Plan period. The scheme envisaged the integration of family planning services with health, nutrition and maternal & child care services. As on 31.3.1984 as many as 304 out of 406 districts were covered under this scheme.

Further, to improve the accessibility of health and family planning services in rural areas, particularly for those who are in the remote areas, the Community Health Volunteer (CHV) scheme was introduced in 1977. Under this scheme, one

person for every 1000 population selected by the community itself was given a three-month training in primary health care. After completion of the training, each CHV was provided with medicines worth Rs.50/- for a month and deployed in the respective villages. Each CHV gets an honorarium of Rs.50/- per month for providing Primary Health Care to the people. They are also expected to act as village level coordinators of various health and family planning activities carried out by the PHC. The evaluations of this scheme indicate that it is well accepted by the villagers. In 1980, some improvement was made in the selection procedure to make it more effective and the scheme was renamed as the Village Health Guide (VHG) scheme. Towards the end of 1984, out of 5484 PHCs, the scheme was implemented in 4234 PHCs and 3.45 lakh VHGs started working in the field.

Realizing the fact that most of the deliveries in rural India are assisted by traditional birth attendants (*dais*), a scheme for training of *dais* was introduced in 1974. It was expected that training of *dais* would go a long way in promoting conditions for safe and hygienic deliveries and thus reducing the maternal and infant mortality. The total number of *dais* trained till early 1984 was 4.43 lakh.

Besides the above schemes, the extension approach was also strengthened by extensive use of mass media. Among various mass media, the film medium was given more importance. By 1973, almost all the districts were equipped with 16mm audio-visual units and on an average every year about 80 short films were produced on family planning.

Over the time, the public resources invested in the family planning programme grew manifold. In the Sixth Five Year Plan Period, the financial outlay for Health Sector was Rs.2831/- crores as against Rs.65.3 crores allocated for the First Five Year Plan Period. Further, using the Minimum Needs Programme (MNP) as an instrument, the physical infrastructure in rural areas is being strengthened. As a result, till March, 1984, there were 7210 primary health centres and 74307 sub-centres, which are the main government institutions to deliver health and family planning services in rural areas.

The Problem

The very size of the family planning programme and the extent to which it has penetrated the countryside constitutes a remarkable organizational accomplishment. But the programme has not yet achieved its goal of curbing the population growth rate. While the performance of some states like Kerala, Maharashtra and Punjab compare favourably with any nation of the world, the all India performance falls short. According to official statistics, not more than 30 per cent of the couples could be protected by the end of 1984. The Second All India Family Planning Survey, conducted by Operations Research Group (ORG) reveals that at the end of 1980, at national level, only 28 per cent of the eligible couples were

currently practising modern family planning methods and another 7 per cent were using traditional methods. The study further shows that in the rural areas, the percentage of couples being currently protected by modern family planning methods was still low (about 25%). Besides, the study brings out wide variations in the acceptance rates of modern family planning methods among various states, the percentage of couples currently practising family planning being as high as 57 in Kerala and as low as 15 in Bihar. Thus, these figures clearly indicate that even after 30 years of its existence, the family planning programme could not yield expected results.

Alike family planning programme, the situation with regard to delivery of health and Maternal & Child Health Care (MCH) services has also remained unsatisfactory. Although there was overall reduction in mortality levels, the incidence of infant and maternal mortality continued to be high, particularly in rural areas. In 1980, at national level, the infant mortality and maternal mortality rates in rural areas were 124 and 4.1 respectively for every 1000 live births (Sample Registration Scheme (SRS, 1980). Wide variation in infant mortality rate (IMR) was also observed among various states ranging between 40 in Kerala and 159 in U.P. The infectious and communicable diseases, which could be controlled through preventive and promotive health care measures, continued to be the main sources of morbidity and mortality.

Thus, the PHCs, and Sub-centres seemed to have failed to execute the programmes effectively. Now the question is, what is holding back the PHCs from implementing their programmes effectively. Do the problems lie with administration or availability of resources and characteristics of the clients come in the way? How do the programmes actually function? Or what factors could explain relative success in some states like Kerala, Maharashtra and failure in other states like Bihar and UP?

To answer the above questions, it was essential to examine the whole issue from various angles, including the organisational setting, change agent/functionary-client interface and the clients themselves and it is with this reason the ICMR Task Force on Psychosocial Research in Family Planning had proposed the present study during 1981 which was taken up later and completed during 1985. Somehow, the report was finalised towards the end of 1987.

Objectives

The study was undertaken with the following objectives:

- i) to study the functioning of the PHCs and the extent of utilization of services.
- ii) to identify the factors affecting the performance of PHCs with respect to health and family planning programme.

- iii) to understand the reasons for differential performance of the states of Kerala, Gujarat and Bihar with respect to health and family planning programmes.

Design of the Study

In order to achieve the above objectives, the study was divided into the following three parts:

- i) *Functionary or change agent survey*: This covered the interviews of doctors and the field staff of the selected PHCs.
- ii) *Beneficiary or client survey*: This covered the interviews of the eligible couples.
- iii) *Indepth case studies*: These covered the functioning of the selected PHCs. The details about the location of the study states, the procedures followed for selecting the districts, PHCs, villages, functionaries, households, respondents and sample size *etc.* are mentioned below:

The states

The study was conducted in three states, namely Bihar in North, Gujarat in West and Kerala in South of India (see map). The selection of these states was done purposively taking into account the existing fertility and health situations, measured in terms of CBR and IMR and the extent of success of family planning, measured in terms of CPR. On these three parameters, Kerala, Gujarat and Bihar occupy, among the other states of India, upper, middle and lower positions respectively. Kerala topped the state list with lowest CBR (26.2) and IMR (37) and better CPR (33.8) above the national average (28) during 1980-82. Gujarat remained in middle with slightly higher CBR (34.8) and IMR (116) but with better CPR (36.1) than that of the nation, while Bihar at the lower position, with highest CBR (38.1) and IMR (118) and lower CPR (16.1).

The districts

As district wise estimates of CBR and IMR were not available, the selection of the study districts was done on the basis of family planning performance. Accordingly, from each selected state, two districts - one from among the above average districts and one from among the below average districts, were selected at random. However, while making the selection of the districts, guidance of the respective state demographers and other officers at Directorate of Health and Family Welfare Services was sought. The following districts were selected in the respective states:

STATES AND DISTRICTS SELECTED FOR STUDY



States	Districts	
	<i>Above average (Good)</i>	<i>Below average (Poor)</i>
Bihar	Patna	Santhal Pargana
Gujarat	Baroda	Dangs
Kerala	Trivandrum	Malappuram

The PHCs and villages

In each selected district, two PHCs were sampled randomly and in each PHC area, *i.e.* block, four villages — one with PHC, one with sub-centre and two remote villages, where none of these facilities were available, were selected. The selection of the sub-centres and remote villages was done at random. Thus, in each state, 16 villages were included in the study.

The functionaries, households and respondents

For the change-agent survey, all the field staff attached to PHC and Sub-centres were included in the study and were interviewed. Apart from them, Medical Officer (MO) incharge of each of the selected PHCs was also interviewed. The other staff, like Nurse, Compouonder, Pharmacist stationed at the PHC were not interviewed. The actual number of staff interviewed is given in Table 1.

Table 1
NUMBER OF SUCCESSFUL CALLS MADE IN THE PROVIDER SURVEY

Functionary/State	Bihar	Gujarat	Kerala
Supervisor			
Male	11	12	19
Female	5	11	7
Any	16	23	26
Worker			
Male	37	31	53
Female	27	33	64
Any	64	64	117

For the beneficiary survey, in each selected village, 40 households were selected at random from the list of households provided by the respective *Panchayats*. Each selected household was visited by a trained male/female investigator. First the head of the household or the senior member of the household was contacted and the details such as age, sex, marital, educational and occupational status of each member living in the household, were obtained by administering a 'Household

Schedule'. On the basis of this information, a list of eligible persons for each household was prepared and one of them was selected at random and interviewed. In each selected state about 640 eligible couples were contacted. The actual number of successful calls made in beneficiaries (client) survey is given in Table 2.

Table 2

NUMBER OF SUCCESSFUL CALLS MADE IN THE BENEFICIARY SURVEY

District/State	Bihar	Gujarat	Kerala
Good	317	325	319
Poor	324	322	319
Any	641	647	638

Indepth case studies of PHCs

The qualitative data were obtained through indepth case studies of the same sampled PHCs (3 from Bihar and 4 from each Gujarat and Kerala). For this purpose, a well trained social scientists stayed in each selected PHC village for a month.

The guidelines for the indepth case studies of the PHCs were developed as check-list for the social scientist in order to ensure that he has covered all the relevant areas about which the information was required. A set of open ended questions were also provided to help him during his informal discussions with informants (providers as well as beneficiaries) and in conducting the interviews focussed on the concept of health, decision making processes for seeking medical assistance from a particular source and client and change-agent interface.

Research instruments

For the present study, apart from the above mentioned guidelines the following three types of interview schedules were prepared and used:

- i) Interview schedule for Doctors.
- ii) Interview schedule for Functionaries.
- iii) Interview schedule for Beneficiaries.

The doctor's schedule was used to interview the MO I/C of PHC and elicit information on the personal background, his training in MCH and family planning, his role and organisational problems including logistic support, work style and approach to supervise the work, interaction with the PHC staff and general masses *etc.*

The Functionary schedule was designed to yield similar information from the field supervisors and field workers. Probing was also made on various aspects like the problems in execution of their assigned works, extent and type of support and guidance they get from their supervisors or provide to their immediate subordinates; their perceptions of health and family planning programmes, and the beneficiaries.

The beneficiary schedule covered various aspects including the health behaviour of the beneficiaries (clients), their preference for a particular source of health services and system of medicine, decision making process in seeking health services, their opinion about and the kind of experience they had with the health and family planning workers, their perceptions about service facilities available at PHC/Sub-centre; general characteristics of the clients and their values which might determine the family size norm and utilization of health and family planning services *etc.*

CHAPTER 2

Description of the Study Areas and Profile of Beneficiaries

The present chapter describes briefly the social contours of the study areas and socio-economic & demographic profile of the beneficiaries. This background information makes it easy to understand the study findings in right perspective (Table 3).

Social Contours of the Study Areas

Bihar

Bihar is the second largest state of India located in the North-Eastern part of the country. According to 1981 Census, its population is 69.9 million, constitutes 10.2 per cent of the total Indian population. Though very rich in natural resources, it is one of the backward states of India, characterised by higher illiteracy (74 per cent in 1981), low per capital net domestic product (Rs.958 in 1980-81) and persistent high infant mortality (around 118 in 1980-81) and fertility (CBR 37.2 in 1980-81). The performance of Family Planning Programme is low (The couple Protection Rate being around 16 per cent).

Patna district

The districts selected from the state for the study were Patna and Santhal Pargana. Patna district is located in the North-West part of the state. The Patna city is the capital of Bihar state. The total population of the district is 3.03 million (Census 1981), constitutes about 4.3 per cent of the total state population. Its decennial growth rate during 71-81 has been 34.7 per cent with highest population density being 943 persons per sq. km. as against 402 for the state as a whole. This district is relatively developed part of the state, characterised by better literacy rate (39.7 per cent), better road and transportation facilities. The district has very low percentage of tribal population (0.06 per cent, Census 1981). The religion wise break-up of the district population indicates the Hindus, 92.4 per cent and the Muslims, 7.5 per cent.

Santhal Pargana

The Santhal Pargana is located in the Eastern part of the state. Its 3.7 million population (Census 1981) constitutes 5.3 per cent of the state population. Its

DEMOGRAPHIC AND SOCIO-ECONOMIC PROFILES OF THE SELECTED DISTRICTS

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decennial growth rate has been much lower, 16.3 per cent (1971-81) than that of the state average (23.9 per cent). Socially and economically, the Santhal Pargana is a backward district with high illiteracy (78.1 per cent in 1981), inadequate road, transport and communication facilities. The district has a large tribal population, 36.2 per cent (Census 1971), most of which below the poverty line. The religion wise break-up of the district population shows the Hindus 78.6 per cent and the Muslims 16.4 per cent (Census 1981).

Gujarat

Gujarat is located in the Western part of the country and adjacent to Maharashtra. According to 1981 Census, the population of the state is 34.1 million, constitutes about 5 per cent population of the country. Economically, it is a well developed state with the per capita net domestic product of Rs.2150 (1984). It is also one of the industrially developed states of India.

The literacy level is around 44 per cent, above the national average (36 per cent). Though, the acceptance of family planning has been fairly high (Couple Protection Rate 40 per cent), the birth rate has also been high, about 34 per 1000 population (1984). The state has also witnessed high infant mortality rate which has been around 113 per 1000 live births (1984-85).

Baroda district

The district Baroda, located in the Southern part of the state, is highly industrialised. According to 1981 Census, its population is 2.6 million, constitutes 7.6 per cent of the state population. The decadal growth rate of the district has been 29 per cent, above the state average (27.7 per cent). The literacy rate is 48 per cent which is also above the state average. The tribal population constitutes about 24 per cent of the total district population. The religious composition indicates 91 per cent Hindus and 8 per cent Muslims.

Dangs district

The Dangs district located at the South-Eastern border of the State is one of the smallest districts of Gujarat with 0.1 million population in 1981, which constitutes 0.3 per cent of the state population. The tribal population of the district constitutes 93 per cent of the total district population. It is a backward district being characterised by 100 per cent tribal population with low level of literacy (29.8 per cent). The participation of women in labour force is much higher (23 per cent than the state average of 12 per cent).

Kerala

The state is located in the Southern part of the country. According to 1981 Census, its population is 25.40 million, constitutes 3.7 per cent of the country's total

population. Though, Kerala is economically not very advanced state (per capita net domestic product: Rs.1540), it is one of the most socially developed state of the country with the highest literacy rate 69 per cent (Census 1981). Well developed roads and transport facilities have improved the mobility in the state. Its infant mortality rate (40 per 1000 live births) and fertility rate (CBR 26.2) have also been very low during 1984-85. The couple protection rate during this period has been very high (36.3). The women labour force participation in economic activities is 13 per cent.

Trivandrum

Trivandrum is located in the Southern part of the state. Its population according to 1981 Census is reported to be 2.59 million, constitutes 10.2 per cent of the state's total population. The district is densely populated (1182 persons per sq. km.) as compared to the state as a whole (654 persons per sq. km.). The literacy rate is 69.2 per cent (74 per cent for males, 64.5 per cent for females) which is equal to the state average. The religious break-up of the district population shows 69.8 per cent Hindus, 12.5 per cent Muslims and 17.7 per cent Christians. The population proportions of the scheduled castes (SC) and Scheduled tribes (ST) are reported to be 9.7 per cent and 0.5 per cent respectively.

Malappuram district

The district is located in the central part of the state. Its population is 2.4 million, constitutes 9.4 per cent of the state population (Census 1981). The religious break-up shows 32.1 per cent Hindus, 65.5 per cent Muslims and 2.5 per cent Christians (1981). The scheduled castes and tribes constitute 7.6 per cent of the district population (Census 1971).

Demographic Characteristics of Beneficiaries

Sex of respondents

Table 4 shows that while samples from Gujarat and Kerala were composed of almost equal proportions of male and female respondents, the sample from Bihar contained larger percentage of male respondents. The preponderance of male respondents in Bihar sample was largely because of the non-availability of female investigators in this state*.

*Despite the best efforts to make a team of three male and three female field investigators in Bihar, we could not do so as the female candidates did not come forward to undertake the job because of their traditional outlook and security reasons. Thus, due to shortage of female investigators, in the case of about 15 per cent female respondents who could not be interviewed, their husbands were interviewed. This problem was not faced in Gujarat and Kerala.

Age of wife

The age of wife is an important determinant of family planning acceptance. Table 4 shows that the couples from Gujarat were slightly older than that of Bihar and Kerala. The average of wife of the selected couples was about 29 years in Bihar and Kerala and 30 years in Gujarat.

An analysis of the age structure shows that proportion of younger couples was somewhat high in Bihar sample as compared to that of Gujarat and Kerala. For example, the couples with wives aged 19 or below constituted about 13 per cent in Bihar, 3 per cent in Gujarat and about 4 per cent in Kerala. One of the reasons for this could be the low age at marriage in Bihar as compared to the other two states. According to 1981 Census, the proportion of married women in the age group 15-19 years in Bihar was 64 per cent as against 27 per cent in Gujarat and 14 per cent in Kerala. Thus, the chance of younger couples getting selected in the sample was much lesser in Gujarat and Kerala than in Bihar. Within the states, no such major variation was observed in the age structure or the average age of wives as the mean age ranged between 28.8 and 30.9 years.

Further, an analysis of the age at *Gauna* (effective marriage) shows that the mean age at which the couple consummates was slightly higher in Kerala (18.5 years), followed by Gujarat (17.6 years) and Bihar (15.5 years) in order. Within the states, except in Kerala, no significant variation was observed between the selected districts.

The celebration of late marriages was found more in Trivandrum (mean age 19.3 years) as compared to that in Malappuram (17.7 years). This difference seems to be associated with the religious and educational differentials.

Social and Economic Characteristics

Religion

The analysis of the data by religion shows considerable variation among the samples of all the three states. The Hindus constituted 83 per cent in Bihar, 98 per cent in Gujarat and 48 per cent in Kerala. The proportion of Muslims was 15 per cent in Bihar, 2 per cent in Gujarat and 39 per cent in Kerala. The Christians were more in Kerala and they constituted about 13 per cent of the total sample. The district wise break-up of the data indicated significant variations in religious composition of the selected districts of Bihar and Kerala while it was not true in the case of Gujarat sample. In Kerala, 65 per cent of households in Malappuram district as against 12 per cent in Trivandrum were Muslims. Similarly, in Bihar, 25 per cent in Santhal Pargana as against 5 per cent in Patna were Muslims. A comparison of these figures with those of 1981 Census shows that the religious composition of the

Table 4

SOCIO-ECONOMIC AND DEMOGRAPHIC PROFILES OF BENEFICIARIES

Characteristic	Bihar			Gujarat			Kerala		
	P	S	C	B	D	C	T	M	C
Sex of Respondent									
Male	71.7	66.7	69.2	47.4	50.0	48.7	49.2	50.5	49.8
Female	28.3	33.3	30.8	52.6	50.0	52.3	50.8	49.5	50.2
Total (N)	315	324	639	325	320	645	319	319	638
NA	2		2		2	2			
Age of wife (Years)									
Upto 19	10.8	14.8	12.8	3.4	2.5	2.9	2.2	6.6	4.4
20 - 24	24.1	17.3	20.6	15.4	25.0	20.2	19.1	21.6	20.3
25 - 29	20.8	24.1	22.5	28.9	26.3	27.6	32.6	27.5	30.1
30 - 34	20.6	19.4	20.0	19.7	22.8	21.2	20.4	20.1	20.2
35 - 39	11.4	11.7	11.6	17.8	12.5	15.2	18.5	22.3	20.4
40 - 49	12.3	12.7	12.5	14.8	10.9	12.9	7.2	1.9	4.6
Total (N)	316	324	640	325	320	645	319	319	638
NA	1		1		2	2			
Mean	28.9	28.8	28.8	30.9	29.5	30.2	29.8	28.3	29.3
S D	8.0	8.1	8.0	7.0	6.7	6.9	6.3	6.4	6.4
Age at effective Marriage - Wife (Years)									
Upto 15	64.3	66.4	65.4	36.6	36.5	36.7	6.3	34.2	20.2
16 - 19	25.6	26.6	26.0	39.4	46.0	42.8	49.5	46.3	37.9
20 +	10.1	7.0	8.6	24.0	17.5	20.5	44.2	19.5	31.9
Total (N)	317	324	641	325	322	647	319	319	638
Mean	15.7	15.5	15.5	17.8	17.6	17.6	19.3	17.7	18.5
Religion									
Hindu	94.6	72.9	83.6	96.3	98.8	97.8	62.6	33.7	48.2
Muslim	5.4	24.9	15.3	3.1	0.9	2.0	12.3	65.3	38.7
Total (N)	315	323	638	325	320	645	318	315	633
NA	2	1	3		2	2	1	4	5
Education of Wife									
Illiterate	66.2	82.7	74.5	44.6	75.8	59.9	8.5	21.9	15.2
Literate	2.8	2.8	2.8	0.3	0.6	0.5	0.3	0.0	0.2
Upto 5th Standard	7.3	5.2	6.3	25.1	11.9	18.6	36.8	51.8	44.3
6 - 8 Standard	18.0	7.1	12.5	14.2	5.8	10.1	24.5	16.6	20.6
9 - 10/Matric/SSLC	5.4	1.9	3.6	12.7	4.3	8.5	25.2	8.8	17.0
College and above	0.3	0.3	0.3	3.1	1.6	2.4	4.7	0.9	2.7
Total (N)	316	324	640	323	310	633	318	319	637
NA	1		1	2	12	14	1		1

	Bihar			Gujarat			Kerala		
	P	S	C	B	D	C	T	M	C
Occupation of Husband									
Agricultural Labourer without land/Agricoolie/Coolie	15.3	16.7	16.0	19.6	18.8	19.2	27.7	27.4	27.4
Agriculture labourer with land more than 1 Acre	1.9	4.7	3.3	2.8	8.4	5.6	13.5	6.9	10.2
Cultivator	43.6	35.9	39.7	24.2	42.2	33.2	16.7	10.3	13.5
Business	9.6	19.5	14.6	15.8	4.7	10.3	7.5	14.4	11.0
Service	18.8	10.5	14.6	30.2	24.1	27.1	15.4	15.4	15.4
Artisan	8.3	9.3	8.8	5.3	1.8	3.6	8.5	7.8	8.2
Others	0.6	0.9	0.8	1.2	0.0	0.6	5.0	7.5	6.3
Professional/doctor/teacher / Lawyer	1.9	2.5	2.2	0.9	0.0	0.4	5.7	10.3	8.0
Total (N)	314	323	637	322	320	642	318	319	637
NA	3	1	4	3	2	5	1		1
Occupation of Wife									
Working in agriculture	0.3	1.8	1.4	15.8	23.7	19.7	0.8	2.9	3.2
Working in other sector	1.0	0.9	0.6	5.6	5.4	5.5	11.5	3.4	5.8
Non-working	98.7	97.2	98.0	78.6	70.9	74.8	87.7	93.7	91.0
Monthly Income of Couple. (Rs.)									
< 200	17.1	29.3	23.3	11.4	22.5	16.9	44.1	33.3	38.7
200 - 500	68.4	57.6	63.0	50.5	64.4	57.4	39.8	47.0	43.5
501-800	9.8	10.3	10.0	25.5	9.4	17.5	7.9	11.3	9.5
800 +	4.7	2.8	3.7	12.6	3.7	8.2	8.2	8.4	8.3
Total (N)	315	324	639	325	320	645	319	319	638
NA	2		2		2	2			
Mean	359	320	339	471	323	398	309	346	328
SD	192	184	187	244	186	217	239	239	239

P-Patna, S-Santhal Pargana, C-Combined, B-Baroda D-Dangs, T-Trivandrum, M-Malappuram

samples were fairly close to that of rural population of the districts. For example, according to 1981 Census, the proportions of Muslims in rural Malappuram and Trivandrum were 65 and 12 respectively. Similarly, the proportions of Muslims in rural parts of Patna and Santhal Pargana were 5 and 17 respectively.

Education of wife

An analysis of the data on educational levels of wives indicates that the literacy rate among women was highest in Kerala (about 85 per cent), followed by Gujarat (about 40 per cent) and the least in Bihar (about 25 per cent, Table 4). Further, the percentage of women who had schooling upto high school was also highest in Kerala (40 per cent), followed by Gujarat (about 21 per cent) and the least in Bihar (about 16 per cent). The districtwise analysis indicates that within each state, educational levels of women were better in good performing districts than the poor

performing districts. For example, in Kerala about 54 per cent of the women from Trivandrum as against 26 per cent from Malappuram had attended high school. Similarly, wide variation was also observed in the other two states.

Occupation of husband

Table 4 shows that 59 per cent couples in Bihar, 58 per cent in Gujarat and 51 per cent in Kerala were dependent on agriculture and allied activities. About 17 per cent in Bihar, 27 per cent in Gujarat and 23 per cent in Kerala were selected persons, engaged in professions like teaching *etc.*

As regards the participation of women in labour force, Table 4 shows that 2 per cent women in Bihar, 25 per cent in Gujarat and 9 per cent in Kerala were gainfully employed. However, by and large, most of them were engaged in agricultural activities. The proportion of women engaged in non-agricultural work was highest in Trivandrum (12 per cent).

Family income

An analysis of the monthly family income of the husband and wives taken together reveals that most of the couples from Bihar (80 per cent), Gujarat (74 per cent) and Kerala (82 per cent) belonged to low income group and were having monthly income of Rs.500/- or less.

Exposure to mass media

Table 5 and 6 give respondents' extent of exposure to mass media. Table 5 shows that 40 per cent respondents in Kerala were exposed to three types of mass media, namely radio, newspaper and cinema. The corresponding figures for Gujarat and Bihar were 30 per cent and 18 per cent respectively.

The proportion of respondents, who were exposed to at least two of the three mass media, was found to be 20 per cent in Bihar, 26 per cent in Gujarat and 23 per cent in Kerala. The proportion of those, who were not exposed to any media was highest in Bihar (41 per cent), followed by Gujarat (25 per cent) and Kerala (18 per cent).

As expected, in all the three states, the respondents were more exposed to mass media in good performing districts than those in poor performing districts. However, the differences were much wider in Bihar and Gujarat and less in Kerala (Table 5).

An analysis of the data by sex of the respondents shows that in all the three states the male respondents were better exposed to mass media than females. Sex differentials in mass media exposure were larger in Bihar sample than in the remaining two states (Table 6). The difference between the proportions of male and female

respondents who were not exposed to any mass media was highest in Bihar (46 per cent points, 72 per cent for females and 26 per cent for males), followed by Gujarat (25 per cent points, 37 per cent for females and 12 per cent for males) and the least in Kerala (18 per cent points, 27 per cent for females and 9 per cent for males). Further analysis of the data by district and sex indicates that while situation remained same irrespective of the type of districts, the sex differentials were significantly larger in poor districts of Gujarat and Kerala as compared to good performing districts.

Table 5
EXPOSURE TO MASS MEDIA BY DISTRICT

Exposure to Mass Media	(Percentage)								
	Bihar			Gujarat			Kerala		
	P	S	C	B	D	C	T	M	C
Not exposed to any mass media	32.5	48.5	40.5	13.5	35.4	24.9	14.1	21.6	17.9
R is exposed to Newspaper	6.0	3.4	4.7	2.2	1.9	2.0	4.1	3.8	3.9
R is exposed to Radio	12.6	15.1	13.9	11.4	18.3	14.8	8.2	10.0	9.1
R is exposed to Movies	1.3	4.6	3.0	3.1	0.6	1.9	9.4	3.1	6.3
R is exposed to Newspaper & Radio	17.7	4.0	10.8	10.2	15.8	13.0	9.7	20.1	14.9
Newspaper and movie	2.5	2.2	2.3	0.9	0.3	0.6	5.0	2.2	3.6
Radio and movie	4.4	9.9	7.2	15.7	9.6	12.7	4.7	3.4	4.1
R is exposed to all	23.1	12.3	17.6	43.0	17.1	30.1	44.8	35.8	40.2
Total (N)	317	324	641	325	322	647	319	319	638

P-Patna, S-Santhal Pargana, C-Combined, B-Baroda, D-Dangs, T-Trivandrum, M-Malappuram

Cummulative Fertility and Number of Surviving Children

An analysis of the number of live births by age of the mother shows that by the end of the reproductive age (40-49 years), a woman delivered on an average about 6 live births in Bihar, slightly above 4 in Gujarat and 5 in Kerala (Table 7). A calculation of mean number of live births delivered by a woman irrespective of her age works out to be 3.4 live births in Bihar, 2.9 births in Gujarat and 3.2 births in Kerala. A comparison of these findings with those of other studies, shows that the estimates of Bihar and Kerala are reasonably closer to those of other studies (Zachariah, 1983). However, in case of Gujarat, the estimate seems to be on lower side as another study conducted in Gujarat, almost at the same time, estimates the mean number of live births at 3.7 (ICMR, 1986). This under estimation seems to be due to the under representation of older couples in the study, particularly in the age group of 40-49 years.

Table 6

EXTENT OF EXPOSURE TO MASS MEDIA BY SEX AND BY DISTRICT

(Percentage)

Exposure to Mass Media	Bihar						Gujarat						Kerala					
	P		S		C		B		D		C		T		M		C	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
R is not exposed	14.6	76.4	38.4	68.5	26.2	72.1	7.8	18.7	15.0	56.9	11.5	37.2	10.2	17.9	7.5	36.0	8.8	26.9
R is exposed to Newspaper only	7.5	2.2	4.2	1.9	5.9	2.0	3.9	0.6	3.1	0.6	3.5	0.6	3.8	4.3	1.9	5.7	2.8	5.0
R is exposed to Radio only	14.2	9.0	17.1	11.1	15.6	10.2	15.6	7.6	15.6	21.3	15.6	14.2	5.1	11.1	5.6	14.6	5.3	12.8
R is exposed to Movie only	1.3	1.1	5.1	3.7	3.2	2.5	0.0	5.8	1.3	0.0	0.6	3.0	3.2	15.4	1.2	5.1	2.2	10.3
R is exposed to Newspaper and Radio	23.9	2.2	5.1	1.9	14.7	2.0	18.8	2.3	25.6	6.3	22.3	4.2	14.0	5.6	26.7	13.3	20.4	9.4
R is exposed to Newspaper and Movie	3.5	0.0	2.3	1.9	2.9	1.0	1.9	0.0	0.0	0.6	1.0	0.3	3.8	6.2	3.1	1.3	3.5	3.8
R is exposed to Radio and Movie	4.4	4.5	10.6	8.3	7.5	6.6	5.8	24.6	13.8	5.6	9.9	15.4	2.5	6.8	4.3	2.5	3.5	4.7
R is exposed to all the three	30.5	4.5	17.1	2.8	24.0	3.6	46.1	40.4	25.6	8.8	35.7	25.1	57.3	32.7	49.7	21.5	53.5	27.2
Total (N)	226	89	216	108	442	197	154	171	160	160	314	331	157	162	161	158	318	320
M - Male	F - Female		C-Combined,		B-Baroda,		D-Dangs,		T-Trivandrum,		M-Malappuram							
P - Patna,	S-Santhal Pargana,																	

District wise analysis indicates that the good performing districts had lower fertility (measured in terms of average number of live births) than the poor performing districts (Table 7). For example, in Kerala the mean number of live births to women in the age group of 40-49 years, the end of reproductive period, was found to be 4.6 in good performing district as against 6.5 in the poor performing district. Similar observations can be made in the case of the other two states also. However, a note of caution may be mentioned here that these figures should be taken as illustrative rather than in exact values because of the smallness of sample size.

Table 7

MEAN NUMBER OF LIVE BIRTHS BY AGE OF MOTHER AND BY DISTRICT

Age of Mother (Years)	Bihar			Gujarat			Kerala		
	P	S	C	B	D	C	T	M	C
Upto 19	0.77	0.75	0.76	0.18	0.70	0.43	0.71	0.48	0.54
20 - 24	1.84	1.68	1.77	1.44	1.72	1.65	1.59	1.74	1.67
25 - 29	3.18	3.37	3.28	2.44	2.64	2.43	2.31	3.25	2.74
30 - 34	4.41	3.98	4.20	3.20	3.63	3.43	2.94	4.28	3.61
35 - 39	5.03	5.10	5.07	3.84	4.22	4.00	3.83	5.90	4.96
40 - 49	5.42	5.90	5.72	3.86	4.94	4.30	4.65	6.50	5.03
Any	3.35	3.35	3.35	2.76	3.02	2.89	2.72	3.60	3.16
Total (N)	317	324	641	325	322	647	319	319	638

P-Patna, S-Santhal Pargana, C-Combined, B-Baroda, D-Dangs, T-Trivandrum, M-Malappuram

Table 8

MEAN NUMBER OF LIVING CHILDREN

Age of Mother (Years)	Bihar			Gujarat			Kerala		
	P	S	C	B	D	C	T	M	C
Upto 19	0.66	0.58	0.62	0.18	0.70	0.43	0.71	0.48	0.54
20 - 24	1.53	1.39	1.47	1.32	1.53	1.45	1.54	1.58	1.56
25 - 29	2.53	2.69	2.62	2.10	2.50	2.29	2.18	3.05	2.57
30 - 34	3.46	3.14	3.31	2.92	3.30	3.12	2.72	3.92	3.32
35 - 39	4.03	3.76	3.89	3.14	3.85	3.43	3.41	4.78	4.14
40 - 49	4.08	4.55	4.28	3.12	4.37	3.64	4.17	5.80	5.63
Any	2.63	2.60	2.62	2.41	2.76	2.58	2.51	3.13	2.82
Total (N)	317	324	641	325	322	647	319	319	638

P-Patna, S-Santhal Pargana, C-Combined, B-Baroda, D-Dangs, T-Trivandrum, M-Malappuram, C-Combined

The analysis of the data on number of living children indicates that the mean number of living children for the women in the age group were 4.3 in Bihar 3.6 in Gujarat and 5.6 in Kerala (Table 8). That is, the mean number of children who had died were 1.4 for Bihar, 0.9 for Gujarat and 0.6 for Kerala. In other words, the infant and child mortality seemed to be highest in Bihar, followed by Gujarat and the least in Kerala. This is quite in agreement with the observed pattern of IMR in these states.

CHAPTER 3

Knowledge & Utilization of Health Services

The present chapter highlights the existing knowledge about and practices of various health care services in the three study states. Attempts have been made in this chapter to assess whether people were aware of various health related preventive measures and the sources from where these services could be obtained. Besides the other factors, utilization of Government health services depends much on the general belief and practices of people and knowledge of availability of the services, accessibility and actual availability of these services. All these aspects have been carefully examined to understand and explain the level of utilization of health services provided through PHCs and Sub-centres in the rural areas. In case, people have preferred private to public health services, attempt has also been made to highlight reasons for such preference.

While attempting the above aspects, along with the analysis of the survey data, liberal use of quantitative as well as qualitative information collected during indepth case studies of the selected PHCs has also been made. This approach helped in explaining and supplementing the study observations.

Knowledge of Diseases and Associated Preventive Care

Knowledge about the causes of occurrence of diseases

In order to assess people's knowledge about the causes of and preventive care against some of the common diseases, each of the respondents was read the names of such diseases one by one and was asked to list out the causes of their occurrence. Their answers were analysed and depending on their reply they were classified into 'correct' 'some what correct', 'wrong' and 'do not know' (Table 9).

It is disappointing to note that most of the respondents either did not have any knowledge of the causes of occurrence of the diseases or what they knew was wrong. A comparison of the level of knowledge on the causes of the occurrence of the diseases shows that the respondents from Kerala were relatively better informed than those from the other two states.

An analysis of the answers by individual diseases shows that the knowledge about the causes of occurrence of many diseases like polio, whooping cough,

Table 9

KNOWLEDGE OF RESPONDENTS ABOUT THE CAUSES OF OCCURRENCE OF DIFFERENT DISEASES

Disease	Bihar				Gujarat				Kerala			
	Cor- rect	Some what correct	Wrong	DK	Cor- rect	Some- what correct	Wrong	DK	Cor- rect	Some what correct	Wrong	DK
Typhoid	0.5	5.3	24.5	69.7	0.5	10.0	17.6	71.9	7.4	7.8	10.8	74.0
Cholera	1.7	15.0	42.5	40.8	2.4	21.1	41.1	35.4	11.5	15.3	25.1	48.1
Measles	1.6	0.0	19.9	78.5	2.8	0.0	35.0	62.2	11.0	0.0	48.8	40.2
Whooping Cough	0.8	0.0	33.2	66.2	3.6	0.0	75.6	20.8	11.8	0.0	11.0	77.2
Diarrhoea	0.6	17.0	30.8	51.6	0.6	13.5	62.5	23.4	8.4	30.9	23.9	36.8
Scabbies	29.9	0.0	31.9	38.2	51.2	0.0	10.7	38.1	58.8	0.0	23.9	17.3
Malaria	0.9	48.1	8.6	42.2	0.0	75.9	10.0	14.1	11.9	34.2	48.5	48.9
Jaundice	0.2	0.2	24.5	75.1	3.1	14.6	17.9	64.4	5.4	1.4	34.1	59.1
T.B.	3.8	10.2	23.4	62.6	1.6	45.3	9.3	43.8	22.9	7.7	22.4	47.0
Tetanus	0.4	52.7	1.4	45.5	0.5	40.9	7.0	51.6	3.0	18.6	4.1	74.3
Polio	0.3	0.0	9.1	90.6	0.6	0.0	30.4	69.1	2.8	0.0	7.5	89.7

DK - Don't know

measles *etc.* was almost negligible in all the three states. The extent of knowledge about certain diseases varied among the three states. For example, in case of tetanus, about 53 per cent of the respondents from Bihar, 41 per cent from Gujarat and only 19 per cent from Kerala had somewhat correct knowledge about the causes of occurrence of the disease. The corresponding percentages in case of diarrhoea were 17 in Bihar, 14 in Gujarat and 31 in Kerala. The causes of occurrence of malaria was known to about 48 per cent of the respondents in Bihar, 76 per cent in Gujarat and 34 per cent in Kerala. Some of these variations perhaps could be explained not only in terms of the efficiency of the state health education programme but also by frequency of the diseases occurring in the respective areas.. For example, tetanus, a major killer of infants in states like Bihar, was not much reported in Kerala and hence the people were also not much aware about the disease. Similarly, the occurrence of malaria was fairly common in all the states and hence relatively larger percentages of the respondents from all the three states were aware of the causes of occurrence of this disease.

Whether the curse of God causes occurrence of diseases?

In India, the cause of occurrence of many of these diseases is associated with religious beliefs. For example, it is widely believed that small-pox is a curse of Goddess. To see whether similar beliefs were prevalent for other diseases as well, each of the respondents was probed whether he or she believed that the particular diseases occur due to curse of God. Table 10 shows that in Bihar 18 per cent of the respondents in the case of measles, and 28 per cent in the case of small-pox believed that these diseases were caused mainly due to the curse of God.

Table 10
OF CURSE OF GOD CAUSES OCCURRENCE OF DISEASE

Disease	(Percentage)								
	Bihar			Gujarat			Kerala		
	Yes	No	DK	Yes	No	DK	Yes	No	DK
Typhoid	5.5	58.2	36.3	2.7	82.4	14.9	7.6	81.4	11.0
Cholera	6.1	73.6	20.3	3.9	84.7	11.4	8.7	83.1	8.2
Measles	17.7	26.7	55.6	59.6	24.4	16.0	9.1	83.2	7.7
Whooping Cough	4.9	54.1	41.0	0.3	91.3	8.4	5.5	83.4	11.1
Diarrhoea	3.9	57.5	38.6	1.3	89.9	8.8	5.4	84.7	9.9
Scabbies	3.8	71.5	24.7	4.6	82.5	12.9	5.5	86.9	7.6
Small pox	27.8	42.5	29.7	74.6	17.6	7.8	20.2	69.4	10.4
Jaundice	1.7	49.5	48.8	10.4	73.2	16.4	5.8	82.0	12.2
T.B.	3.9	61.9	34.2	16.0	76.0	8.0	7.3	83.3	9.4
Tetanus	2.2	59.2	38.6	2.8	85.5	11.7	5.3	74.0	20.7
Polio	1.7	27.1	71.2	40.7	47.0	12.3	6.8	81.8	11.4

DK - Don't know

In Gujarat, 60 per cent of the respondents in the case of measles 75 per cent in the case of small-pox and 41 per cent in the case of polio believed that the diseases were caused by curse of God. In this state a small proportion of the respondents held similar belief about jaundice (10 per cent) and TB (16 per cent) also. In Kerala, only in the case of small pox, about 20 per cent of the respondents believed that it would occur due to the curse of God.

A further comparison shows that the proportion of respondents who were sure that the diseases were not caused by the curse of God was highest in Kerala, followed by Gujarat and Bihar. This shows that health education in Keral was relatively better than in Gujarat and Bihar.

Knowledge about who gets affected by different diseases

As we know, generally whooping cough, polio, measles affect children, whereas TB attacks mainly adults and the remaining of the listed diseases could affect any person irrespective of his/her age. To assess how far the respondents knew about this, they were probed for each specific disease. As can be seen from Table 11, relatively a larger proportion of respondents from Kerala, followed by Gujarat had fairly a precise knowledge about these aspects. It was the least in Bihar. It is also important to note that in Bihar, fairly a large number of the respondents had admitted their ignorance and replied as 'DK' (Do not know). The proportion of such respondents was least in Kerala.

Knowledge about the correct protection against various (infectious) diseases

The first step in controlling the morbidity and mortality is to provide correct knowledge and protection about various (infectious) diseases. Table 12 shows that in all the three states, still only a small proportion of the respondents had correct knowledge about the protection against diseases like typhoid, cholera, whooping cough, TB, small-pox, tetanus and polio. It is understandable in the case of Bihar, where literacy is low and the performance of the health and family planning programme is poor but it is somewhat surprising in the case of Gujarat and Kerala. Though infant mortality in Gujarat is still high, its overall performance in the family welfare programme was not bad and hence it was not expected that such a small proportion of people would be aware of the measures against infectious diseases. Though, a higher proportion of respondents from Kerala had better knowledge about preventive measures against these diseases, their proportion seemed to be lower than the expected considering high literacy and low child and infant mortality rates in the state. For example, in this state, still about 60 per cent of the respondents did not know about correct preventive measures against tetanus, about 39 per cent against polio and about 62 per cent against whooping cough. A comparison of the level of correct knowledge about the protection against different (infectious) diseases did not show any marked difference between the respondents

Table 11

WHO GETS AFFECTED MOST BY DIFFERENT (INFECTIOUS) DISEASES?

Disease	(Percentage)									
	Bihar			Gujarat			Kerala			DK
	Child- ren	Adults	All	Child- ren	Adults	All	Child- ren	Adults	All	
Typhoid	7.9	2.7	51.7	37.7	1.0	0.0	79.5	19.5	5.5	18.0
Cholera	1.9	3.0	74.5	2.6	7.0	-	79.8	13.2	11.2	8.9
Measles*	24.7	0.5	19.7	55.3	47.2	0.5	33.8	18.5	76.5	2.4
Diarrhoea	2.7	2.7	56.2	38.4	6.5	0.2	83.2	10.1	24.8	6.0
Whooping Cough*	25.9	1.3	31.7	41.1	5.7	0.5	84.5	9.3	76.1	4.6
Scabbies	2.7	1.0	71.9	24.4	2.4	0.2	81.1	16.3	44.5	1.6
TB**	0.9	16.6	49.2	33.3	1.0	19.1	62.4	17.5	0.5	4.8
Tetanus	6.0	0.6	82.7	10.7	4.0	0.5	72.0	23.4	2.5	51.0
Polio*	18.0		10.9	71.1	64.8		15.7	19.5	81.1	9.1

* Affects mostly children

** Affects adults generally

selected from PHC/SC villages and those from the remote villages. However, minor difference was observed in the case of tetanus in Bihar and Gujarat and in the case of polio in Gujarat where relatively a larger proportions of the respondents from PHC/SC villages were aware of the correct protection against these diseases.

Table 12

PERCENTAGE OF RESPONDENTS AWARE OF THE PROTECTIONS AGAINST VARIOUS
(INFECTIOUS) DISEASES BY TYPE OF VILLAGE

Disease/Type of Village	Bihar			Gujarat			Kerala		
	PHC/ SC	Re- mote	Any	PHC/ SC	Re- mote	Any	PHC/ SC	Re- mote	Any
Typhoid	37.2	34.7	35.9	5.9	7.7	7.8	22.8	20.7	21.8
Cholera	44.7	47.5	46.0	9.4	19.8	14.6	44.4	44.0	44.4
T.B.	45.3	44.2	44.7	3.2	5.4	4.2	40.7	42.2	40.9
Small pox	40.0	33.5	36.8	29.6	18.7	24.2	62.3	61.2	61.6
Tetanus	54.5	49.2	51.8	37.4	26.3	32.2	40.5	37.0	40.5
Polio	24.2	21.7	22.9	39.2	25.6	32.4	59.6	61.1	60.6
Whooping cough	32.8	32.6	42.7	8.8	20.0	14.5	36.0	40.2	38.0
Total (N)	328	310	638	322	323	645	320	317	637
NA	2	1	3	1	1	2	1		1

PHC - Primary Health Centre,

SC - Sub-Centre

Awareness of Various Services Provided by PHCs

Table 13 shows that 75 per cent or more respondents from all the three states were aware of the major three services, *viz.* treatment of minor ailments, immunisation and family planning provided by primary health centres and sub-centres. However, awareness of other services like provision of nutritional supplements, antenatal services and distribution of vitamin tablets varied from state to state. For example, provision of nutritional supplements by PHCs was reported by 15 per cent of the respondents in Bihar as against 39 per cent in Gujarat and 47 per cent in Kerala. Similarly antenatal services were reported by only 51 per cent of the respondents from Bihar as against about 85 per cent from Gujarat and Kerala. Information about the distribution of vitamin and iron tablets from PHCs/SCs was limited to 39 per cent in Gujarat and 70 per cent in Kerala. Thus, awareness of various health services provided by PHCs/SCs was the highest in Gujarat, closely followed by Kerala and was considerably less in Bihar. This is also supported by the fact that the proportion of respondents who reported these services spontaneously was much less in Bihar than in the other two states. If spontaneity of reply is any indicator of the emphasis given by the primary health centres on various services,

Table 13

AWARENESS OF VARIOUS HEALTH & FAMILY PLANNING SERVICES BEING PROVIDED BY PHC

(Percentage)

Awareness	Bihar			Gujarat			Kerala		
	Good	Bad	Any	Good	Bad	Any	Good	Bad	Any
Minor Ailments									
Aware	91.4	84.6	87.9	97.3	95.3	96.3	72.4	75.8	74.1
Spontaneous	58.0	55.9	56.9	75.1	64.9	70.0	46.7	56.7	51.7
On prompting	33.4	28.7	31.0	22.2	30.4	26.3	25.7	19.1	22.4
Unaware	8.2	15.1	11.7	2.8	4.0	3.4	27.6	24.1	25.9
Immunisation									
Aware	86.8	76.5	81.5	100.0	98.1	99.1	83.0	78.0	80.5
Spontaneous	17.4	21.3	19.3	75.7	62.4	69.1	52.0	38.4	41.2
On prompting	69.4	55.2	62.2	24.3	35.7	30.0	31.0	47.6	39.3
Unaware	12.9	23.1	18.5	0.0	1.6	1.6	17.0	22.0	19.5
FP Services									
Aware	85.1	63.3	74.1	98.8	95.6	97.2	79.9	74.3	77.1
Spontaneous	8.8	6.5	7.6	62.8	48.4	55.6	30.4	15.4	22.9
On prompting	76.3	56.8	66.5	36.0	47.2	41.6	49.5	58.9	54.2
Unaware	14.5	36.4	25.6	1.2	4.0	2.6	20.1	25.7	22.9
Nutritional Supplements									
Aware	14.5	15.7	15.1	44.0	32.9	38.5	53.9	39.8	46.9
Spontaneous	1.3	1.5	1.4	10.5	6.8	8.7	16.8	9.4	13.2
On prompting	13.2	14.2	13.7	33.5	26.1	29.8	37.0	30.4	33.7
Unaware	85.2	83.6	84.4	56.0	66.5	61.2	46.1	60.2	53.1
Antenatal Services									
Aware	58.6	42.6	50.5	90.4	80.1	85.4	81.5	85.0	83.7
Spontaneous	2.8	2.8	2.8	40.6	24.8	32.8	46.4	58.6	52.5
On prompting	55.8	39.8	47.7	49.8	55.3	52.6	35.1	27.3	31.2
Unaware	41.0	57.1	59.1	9.5	19.3	14.4	18.5	14.1	16.3
Distribution of Iron and Vitamin Tablets									
Aware	38.5	39.9	39.2	82.5	74.9	78.6	74.3	65.8	69.9
Spontaneous	4.1	5.9	5.0	38.2	34.5	36.3	38.6	22.3	30.4
On prompting	34.4	34.0	34.2	44.3	40.4	32.3	35.7	43.3	39.5
Unaware	61.5	60.1	60.8	17.5	15.1	21.4	25.7	34.4	30.1
Total (N)	316	323	639	325	321	646	319	319	638

then in Bihar, PHCs were primarily perceived as the place for the treatment of minor ailments. For example, even provision of family planning services was spontaneously not mentioned by more than 8 per cent of the respondents. In contrast, in the case of Gujarat and Kerala, PHC/SC was spontaneously mentioned as a place from where a package of services including treatment of minor ailments and other services like preventive and welfare, could also be obtained. This very difference in the perception of the respondents about PHC/SC or extent of awareness of various services provided by them could make considerable difference in the level of utilization of the PHC services.

Within the state, a comparison between good and poor performing districts showed that the awareness of the services was slightly better in the former than the latter districts (Table 13). However, the difference was not more than 10 per cent points except in the case of few services. For example, in Bihar, the difference in the awareness of provision of FP services with PHCs/SCs between these two districts was about 22 per cent points and about 16 per cent points in the case of antenatal services. Similarly, in the case of Kerala the difference in respondents' awareness of the provision of nutritional supplements with PHCs between good and poor performing districts was about 14 per cent points.

Utilization of Health Services

Source of medical treatment

To assess, how far the people seek medical help from government sources, the respondents were asked as to from which source they sought medical help, if some member of their family fell sick. Table 14 shows that the utilization of the PHC services was highest in Gujarat, followed by Kerala and the least in Bihar. In Gujarat, about 72 per cent of the respondents were entirely depending on government sources as against 49 per cent in Kerala and only 30 per cent in Bihar. Yet another 9 per cent of the respondents in Gujarat, 15 per cent both in Kerala and Bihar were using both PHC and private medical services for treatment. The percentages of families, which were always depending on private source were 17 in Gujarat and 34 in Kerala and as high as 52 per cent in Bihar. Further, the analysis of the data shows that the utilization of services from two sources, *i.e.* the PHC/SC and hospital was relatively better among the families that were located in the same village, *i.e.* PHC/SC villages (Bihar 34% and Kerala 58%) as compared to those families which were located in the remote villages (27% in Bihar and 38% in Kerala).

In Gujarat, however, where more than two-thirds of the people were depending on government sources, no significant difference was observed in the rate of utilization of government health services between PHC/SC and remote villages. These findings are interesting as these show that the success of Kerala in controlling

infant mortality and morbidity is perhaps not entirely due to government health services. Private health services are also playing important role. On the other hand, the highest rate of utilization of government health services in Gujarat, however, was surprising but encouraging.

Table 14
SOURCE OF MEDICAL TREATMENT BY TYPE OF VILLAGE

Disease/Type of Village	(Percentage)								
	Bihar			Gujarat			Kerala		
	PHC/ SC	Re- mote	Any	PHC/ SC	Re- more	Any	PHC/ SC	Re- mote	Any
PHC/Sub-Center	32.6	15.8	24.4	69.6	65.0	67.1	34.4	10.4	22.4
Govt. Hospital	1.2	11.0	6.1	3.7	6.5	5.1	24.1	28.1	26.1
Sometimes PHC, Sometimes Private Doctor	15.9	15.2	15.5	6.8	11.5	9.1	16.9	12.9	14.9
Private Doctor	47.3	56.8	51.9	18.3	14.9	16.7	24.4	43.2	33.8
Others	3.0	1.0	2.0	1.6	2.2	1.9	0.3	5.4	2.8
Total (N)	328	310	638	322	323	645	320	317	637
N.A.	2	1	3	1	1	2	1	-	1

Within the state, districtwise analysis shows that in Gujarat exclusive dependence on Primary Health Centres or other government health centres was much higher in the poor performing districts (95%) than in the good performing districts (49%) (Table 15). A similar pattern was observed in Bihar where government health services were used by a relatively larger proportion of the respondents in the poor performing districts (35%) than in the good performing districts (26%). However, in Kerala a reverse trend was found where the utilisation of health services from the government sources was more (59%) in good performing district than the poor performing district (38%).

The respondents were further probed as to whether anybody had fallen sick during the past three months preceeding the survey and which sources they availed of for treatment. It was interesting to note from Table 16 that the rate of incidence of sickness reported from Bihar (6.6%) was less than what was reported from Gujarat (10.3%) and Kerala (10.0%). Knowing well that morbidity and mortality levels of Bihar are much higher than that of Gujarat and Kerala, reasons for the low reporting on incidence of sickness in Bihar could be attributed to recall lapse and more importantly their lack of health consciousness. The indepth case studies at PHC level conducted in Bihar clearly revealed that most of them did not consider minor ailments as sickness. According to their perception, a person would be called sick only when he/she could not perform the normal duties. In fact during our

observation period, we came across at least fifteen cases, when although the people had serious cough and cold or minor temperature, they did not believe that they were suffering from these diseases. In contrast, in Kerala and to some extent in Gujarat, health consciousness was better and as our observations showed many of them were seeking medical treatment from PHC for even minor diseases like flu and cough & cold.

Table 15

SOURCE OF MEDICAL TREATMENT BY TYPE OF DISTRICT

(Percentage)

Source/District	Bihar			Gujarat			Kerala		
	P	S	C	B	D	C	T	M	C
PHC/Sub-centre	19.2	29.4	24.4	44.0	90.4	67.1	21.7	23.2	22.4
Government hospital/Taluk/ Panchayt hospital	6.6	5.6	6.1	5.2	5.0	5.1	37.1	15.0	26.1
Sometimes PHC, Sometimes private doctor	18.3	12.7	15.5	15.7	2.5	9.1	11.6	18.2	14.9
Private doctor	55.2	48.6	51.9	31.4	1.9	16.7	29.6	37.9	33.8
Others (home treatment)	0.3	3.7	2.0	3.7	0.0	1.9	0.0	5.6	2.8
Total (N)	317	323	640	325	322	647	318	319	637
N.A.	0	1	1	0	0	0	0	1	1

P-Patna, S-Santhal Pargana, B-Baroda, D-Dangs, T-Trivandrum, M-Malappuram,
C-Combined Sample

Table 16

SOURCE OF TREATMENT UTILIZED FOR PERSONS WHO FELL SICK DURING
THE LAST THREE MONTHS

(Percentage)

Source/State	Bihar	Gujarat	Kerala
PHC/Government Hospital	24.4	53.8	28.8
Private doctor (Allopath)	57.6	23.1	48.6
Private doctor (Ayurvedic)	0.7	3.6	7.9
Private doctor (Homeopath)	4.6	0.3	6.4
Hakim/Unani			
Other (Home medicine)	5.3	1.9	5.3
Do not know	7.4	17.3	3.0
Total number of people fell sick	283	359	393
Per cent fell sick	6.6	10.3	10.0

The analysis of the data on the sources, the sick persons utilized for the treatment, shows again that the government sources were much more utilized in Gujarat (54%) than in Bihar (24%) and Kerala (29%). In these later two states the dependence on the private sources figured maximum and identical (68.2% in each state). The other similarity noted in these states was the majority preference for the private allopathic system of medicine. Table 14, 15 and 16 taken together also confirm that the government health services were relatively best utilized in Gujarat and least in Bihar. In Kerala, though a sizeable proportion of people did use government health services, they largely depended on private sources.

Reasons for not utilizing government health services

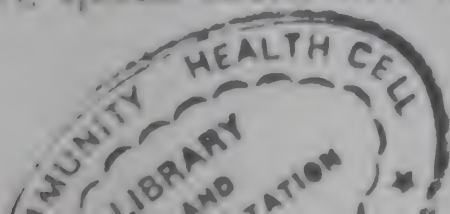
The probes about the reasons for not seeking help from PHCs yielded that the major causes in all the three states were inaccessibility due to distance, belief that the medicines provided by PHCs are of substandard or ineffective, and bad behaviour of PHC staff (Table 17). Other important reasons included lack of transport or expensive transport and non-availability of doctors at the PHC or no help from them at the time of need. It was interesting to note that in Gujarat and Kerala almost one-fourth of the respondents, who did not use government services, told that for major and serious diseases they always preferred private doctors who were more cooperative and helpful. In the case of Bihar, 39 per cent respondents told that the PHC doctors were corrupt, they charged money and hence no point of going to them.

A further analysis by the type of village showed that inaccessibility of the PHC was obviously not a serious factor for those from PHC/SC villages. For them, the low credibility of PHC and PHC staff in-terms of non-availability of medicines, non-availability of doctors at the time of need, bad behaviour of the PHC staff, charging of fee for treatment were the main causes for not utilising the PHC services. In the case of remote villages, the inaccessibility, lack of transport facilities or high cost of transportation were the major factors. However, the low credibility of the government services further discouraged them from seeking help from PHCs.

As understanding of the reasons for under utilization of the government health services was an important focus of the present study during indepth case studies of the PHC, the reasons mentioned by the respondents in the Beneficiary Survey for not using PHC/SC services was re-examined and validated. In the following paragraphs, it has been tried to integrate the observations and qualitative data with the survey findings.

Reasons for better utilization of government health services in Gujarat

Considering the fact that the utilization of government health services was strikingly higher in poor performing district of Gujarat than that of good performing district, special efforts were made to understand this paradox, during the



indepth case studies of the selected PHCs. The indepth studies showed that over time people of Dangs lost their faith in traditional and spiritual treatment which were largely provided by village practitioners called *Bhagats*. Now the people want allopathic system of medicine which is 'strong' and provides 'quick relief'. A survey of the study villages showed that there was hardly any qualified allopathic doctor. Even in the PHC village which was a fairly larger one, not a single qualified private doctor was available. Thus, the people did not have any option but to go to the PHC for medical treatment. Apart from this, the Dangs itself is geographically a small district with one district hospital, two PHCs and 12 allopathic dispensaries which are located in such a way that those facilities were rather easily accessible from most of the villages within Dangs district. The point could be more easily understood by

Table 17

REASONS FOR NOT PREFERRING MEDICAL HELP FROM PHCs/SCs

(Percentage)

Reason/Type of Village	Bihar			Gujarat			Kerala		
	PHC/ SC	Remote	Any	PHC/ SC	Remote	Any	PHC/ SC	Remote	Any
PHC is at very far off place	11.5	47.3	35.1	100.0	68.8	83.7	29.3	71.4	53.0
Good and standard medicines are not available at PHC/medicines are not effective	60.2	22.7	35.4	97.1	40.6	60.1	31.5	26.5	28.7
Medicines are to be purchased from market/PHC Services are expensive / medicines are not available	41.6	15.0	24.0	23.5	9.4	4.3	21.5	12.8	16.6
Long waiting time	11.5	7.3	6.7	17.6	7.8	11.3	14.9	13.2	14.0
Bad treatment from PHC staff	50.4	28.6	36.0	32.4	12.5	19.4	29.3	30.0	29.6
PHC doctors are corrupt/they charge money	46.9	35.0	39.0	-	-	-	3.9	2.1	2.9
PHC doctor/PHC staff are not always available/Do not help in time	23.0	8.2	13.2	5.9	4.7	5.1	23.2	11.1	16.4
Lack of proper transportation/ Transportation is expensive	7.1	18.6	14.7	11.8	4.7	7.1	12.7	21.4	17.6
For major diseases we do not prefer PHC	7.1	5.5	6.0	23.5	28.1	26.5	21.0	20.9	21.0
PHC provide services more to women and children not to all	-	-	-	-	-	-	2.2	6.4	4.6
Closeness with pvt. doctor	10.6	2.7	5.4	5.9	-	2.0	2.2	1.3	1.7
Required services are not available at PHC	10.6	8.2	9.0	14.7	10.9	12.2	5.0	5.6	5.3
Unawareness of PHC Services	-	-	-	-	-	-	-	-	-
Others	4.4	5.0	4.8	8.8	15.6	13.3	18.3	15.0	12.3
Total (N)	217	227	444	86	92	178	133	195	328

the fact that the area covered under each PHC of Dangs was around 88 square kms. whereas the corresponding areas for the two selected PHCs from Baroda district were 724 and 534 sq.km.

On the whole, better utilization of health services in Gujarat was also because of better management of manpower within the PHCs. For example, in Baroda district (good performing district) certain health centres such as Primary Health Units (PHUs), subsidiary health centres having location in remote areas were running regular OPDs by doctors posted at these centres. People from nearby villages, who are otherwise far off from PHCs, visit these PHUs, SHCs and avail the medical facilities. Thus, relatively higher utilisation of the PHCs in Gujarat sample were mainly due to (a) lack of private allopathic practitioners in backward areas like Dangs, (b) availability of doctors at PHCs/SHCs in Baroda and (c) establishment of these units in such location that the accessibility of services is maximised from the villages falling in their respective jurisdictions.

Availability of doctors

The indepth observations indicated that the availability of doctors at PHC or other health centres brought a major difference in the utilization of Government health services between Bihar on the one side and Gujarat and Kerala on the other. In Bihar it was observed that out of four doctors posted at PHC, only one was available for consultation at PHC and that too for an hour between 11 and 12 O'clock when they are expected to be in clinic from 8 a.m. to 12 O'clock. The remaining doctors were supposed to be visiting subcentres. However, the fact was that mostly these doctors were neither visiting sub-centres nor working at the PHCs rather they were busy in private practice at their homes which were away from their PHCs. As a result, most of the patients who wanted to get treated free of cost by the PHC doctors went to their residence to get the consultation privately by paying consultation fee. At least in one of the PHCs, the Medical Officer-in-charge was also indirectly encouraging this practice as he was afraid that if the other doctors also start attending the PHC regularly and started staying in the same village, they might encroach on his private practice. It is important to note that in Bihar, the Government has withdrawn non-practising allowance and has allowed them to do private practice in out of the duty hours.

In contrast to Bihar, in Gujarat during the entire period of observations, it was found that at least two doctors were sitting together and conducting OPD and were mostly available at least for 3 hours between 9 a.m. to 12 noon every day, excepting in one of the PHCs where the doctors were staying on an average only for 1 hour 15 minutes (Table 18).

Illegal private practice in some of the PHCs of Gujarat was also observed. However, it was done at a much lower scale, largely in the form of charging of

money at PHC itself for giving injections. However, the very fact that the doctors were mostly available at PHC and gave assurance to the patients that they would get treatment, though they had to pay a small amount of money.

In Kerala the situation was still better. In three of the four PHCs, three doctors were attending OPD every day, while in the remaining PHC, two doctors were available for this job. In one of the PHCs, two doctors were available for this job. In one of the PHCs, on an average they were sitting about 3 hours 19 minutes, while in the remaining three PHCs, each of them was available on an average for about 1 hour 40 minutes to do the OPD work. However, they had arranged their timings in such a fashion, that atleast one of the three doctors was always available at the PHC to attend the OPD work (Table 18).

Table 18

AVERAGE TIME SPENT BY DOCTORS AT THE CLINIC/OPD*

State	No. of doctors serving at OPD		Average time spent by each doctor at OPD	
			Hours	Minutes
Bihar				
PHC	1	1	1	15
	2	1	1	-
	3	1	1	-
Gujarat				
PHC	1	2	4	30
	2	2	3	15
	3	2	1	15
	4	2	3	30
Kerala				
PHC	1	3	3	19
	2	2	1	40
	3	3	1	40
	4	3	1	40

* The average time of the availability of doctor was estimated on the basis of observations on eight consecutive days by noting his time of arrival and departure.

Thus, the availability of doctors at PHC appears to be a major factor for increasing the utility of the PHC, and is clearly reflected in the three states (Table 11). The table shows that average number of patients attending PHC every day was only 27 in Bihar as against 80 in Gujarat and 85 in Kerala.

The observation validated some of the charges of the villagers against the PHC doctors, e.g. their non-availability and charging of money as consultation fee.

Table 19

AVERAGE PATIENT TURN OUT IN SELECTED PHCs*

District	PHC	Per day		
		Bihar	Gujarat	Kerala
Good	1	36	158	83
	2	NA	65	72
Poor	3	17	36	136
	4	27	60	50
Any PHC	-	27	80	85

* The means were worked out on the basis of total number of patients visited PHCs on 8 consecutive days during the observation period.

NA - Not Available

Bad behaviour of the PHC staff and long waiting time

In the survey of the clients, yet other major causes for not utilizing the Government health services pointed out were the bad treatment of the PHC staff and long waiting time. During the indepth study, both of these issues were carefully scrutinized. The observations did not support the allegations of bad behaviour of the PHC staff in any of the three states. However, what could have prompted the people to report in this way was the attempt of doctors/PHC staff to keep them in queue and at times their being harsh while implementing it. In PHCs, hardly any proper space was available to wait for getting their turn. The patients looked impatient, broke the queue and stood around the doctor. In contrast, our observations of some of the private practitioners (two to three in each PHC) indicated that they had better sitting facilities for the waiting patients. As they were available for a much longer period of time, the patients planned their visits in such a way that they might not face the agony of long waiting time.

The observations on waiting time at PHCs showed considerable variation among the three states. According to our indepth studies the average waiting time for patient to see the doctor in Bihar was 79 minutes, against 32 minutes in Gujarat and only 10 minutes in Kerala (Table 20). Further, the average waiting time at dispensary for getting the medicines was 4 minutes each for Bihar and Kerala and 14 minutes in Gujarat.

The average time that the doctor spent while seeing a patient was the same (2 minutes) in all the states. It was also observed that in all the states, during the examination, the PHC doctors did not exhibit any special interest in making the patients comfortable or trying to give any counselling. They never attempted to explain the disease or problems to the patients except handing over the prescription for obtaining the medicines from PHC dispensary or from the market in case it is

not available at the PHC. In contrast, the private practitioners indicated more personal touch, spent more time in listening to patients' problems, answering their queries and making them psychologically satisfied that their problems were well taken care of.

Table 20

AVERAGE WAITING TIME OF PATIENTS AND AVERAGE TIME SPENT BY DOCTORS FOR EXAMINING THEM

Factor/Time	Minutes		
	Bihar	Gujarat	Kerala
Mean waiting time of a patient before seeing the doctor	79	32	10
Mean time spent by doctor for examining the case	2	2	2
Mean waiting time at dispensary	4	14	4

Non-availability of medicine

In the beneficiary survey, the people charged the PHC staff for selling medicines or providing sub-standard medicines. Non-availability of medicines at the PHC/SC was a common complaint in all the states. The detailed discussions with the doctors as well as the beneficiaries on the availability and supply of medicines revealed that to some extent the complaint of the community members about the non-availability of medicines at the PHC was true both in Bihar and Kerala. In both of these states, the doctors admitted that the supply of medicines was completely inadequate. Further, in Bihar the PHC doctors also informed that the medicines come on routine basis and not according to the need and local morbidity situation. As a result, some of the medicines which were supplied as routine were lying unused in the PHC store and many of the essential drugs were out of stock. The problem of supply of drugs was not serious in Gujarat.

Further discussions with doctors and other PHC staff indicated that in the case of inadequate supply of medicines and vaccines, the worst sufferers were the sub-centres as the PHC doctors would hold back the medicines to meet the PHC requirement and hence the drugs and vaccines to the sub-centres were generally short supplied. In Bihar, for example, out of eight sub-centres, six did not have T.T. in stock. Of course, it was available at the PHC but for all practical purpose it was physically inaccessible for many villages falling beyond 3 to 5 km radius from the PHC village. The polio vaccine was neither available at the PHC nor at sub-centres. Thus, the short supply of medicines was a genuine problem from the providers' point of view and it was a serious source of discouragement to the clients seeking help from Government health centres. The survey as well as the informal discus-

sions with clients in Bihar showed that they did not see any reason to visit the Government health centres since they were to pay for both, the consultancy and purchase of the medicines.

Coverage of Mothers and Children Under MCH Care

Coverage of mothers

Table 21 shows that even in states like Gujarat and Kerala where the utilization of Government health services for curative purposes was considerably high, the coverage of mothers under MCH programme was rather poor. In Bihar more than 90 per cent of the mothers were not covered under the MCH programme. For example, advice on various cares during pregnancy was given only to 6 per cent women in Bihar, 19 per cent in Gujarat and 38 per cent in Kerala. The pregnant mothers who were protected against tetanus were not more than 6 per cent in Bihar, 33 per cent in Gujarat and 37 per cent in Kerala. Similarly, the iron and vitamin tablets were provided only to 4 per cent of women in Bihar, 30 per cent in Gujarat and 39 per cent in Kerala. The rest of the services such as supply of nutritional supplements delivery at the PHC, assisting delivery at home, advice on feeding practices, family planning and delivery *etc.* were not provided to about 75 per cent

Table 21

COVERAGE OF PREGNANT MOTHERS UNDER MCH PROGRAMME BY TYPE OF VILLAGE

(Percentage)

Service:	Bihar			Gujarat			Kerala		
	PHC/ SC	Remote village	Any village	PHC/ SC	Remote village	Any village	PHC/ SC	Remote village	Any village
Advice on various care during pregnancy	11.4	1.2	6.2	23.8	14.5	19.4	50.3	26.1	37.8
Urine Test	7.0	0.0	3.4	46.9	23.1	35.6	30.0	13.7	21.6
Blood Test	7.6	0.0	3.7	46.9	20.5	34.4	18.9	14.4	16.5
Tetanus Toxoid Injection	11.4	1.2	6.2	45.4	18.8	32.8	49.0	26.8	37.5
Supply of iron & vitamin tablets	8.2	0.6	4.3	43.1	16.2	30.0	56.6	22.9	39.2
Supply of nutritional supplements	5.1	0.0	2.5	16.1	7.7	12.1	14.7	9.8	12.2
Referral to district Hospital	6.3	0.0	3.1	9.2	5.1	7.3	12.6	5.2	8.8
Assistance during delivery at home	8.9	1.9	5.3	23.7	22.7	23.2	15.9	5.4	10.4
Delivered at PHC	10.3	9.5	9.9	31.3	11.8	21.9	6.0	4.1	5.0
Advice on care of new born	6.2	5.7	5.9	47.4	25.4	36.8	23.5	13.6	18.3
Advice on feeding practices	5.5	3.8	4.6	36.4	20.0	28.5	25.0	16.3	20.4
Advice on F.P. after delivery	3.4	2.5	3.0	44.1	24.5	34.6	32.6	20.4	26.2
Total No. of Pregnant cases during two years before survey	138	149	287	117	112	229	126	140	266

or more of the pregnant women. This was true in all the three states. In the case of Bihar, as mentioned earlier, the situation was worst as the 90 per cent or more of the pregnant women in the state were not provided any MCH services.

It can be further seen in the table that there was significant difference in the extent of coverage under various MCH cares between the villages with PHC/SC and those without either of these centres. For example, in Gujarat 45 per cent of the pregnant mothers from PHC/SC villages were provided T.T. injection as compared to only 19 per cent of those from the remote villages. The corresponding percentages for the state of Kerala were 49 and 27 respectively. In Bihar, 11 per cent the pregnant mothers from PHC/SC village were covered against just 1 per cent from the remote villages. Thus, the analysis of the coverage of mothers by type of village indicates that the remote villages were worst sufferers in the sense of coverage of mothers under various MCH cares. During the case studies, the probing with the PHC staff on reasons for such a low coverage of mothers under MCH programme revealed that this was considerably a complex problem and, to an extent, both the providers and the beneficiaries were to be blamed. In the case of the providers, because the supervisors were mainly interested in achieving the family planning targets, they did not demand similar thrust from the workers on MCH care. In all the three states, if the family planning targets were not achieved, the workers were issued memoes, but in no single case the memo was issued to them even if one failed to achieve the target.

Further, in Gujarat, it was observed that special incentives were given for achieving the family planning targets. For example, in a PHC, if the achievement rate exceeds eight sterilizations per 100 population in a year, then each workers irrespective of his individual performance will be paid Rs.200/- and the doctors will be paid Rs.500/- as incentive. No such awards were instituted in the case of low level among the various programmes being operated at PHC. Further, logistic problems such as non-availability of vaccines at sub-centres, failure of cold chain programme further affected MCH programme adversely in all the three states. In Bihar, apart from all these problems, almost "non-functioning of the sub-centres" and "no special efforts in organising antenatal and baby clinics", as organised in Kerala and Gujarat, were other important reasons for dismal performance of MCH programme in the state.

A discussion with beneficiaries and providers, indicated that in the states of Bihar and Gujarat, the lack of knowledge about health and need of preventive measures on the part of the mothers was also responsible for the low coverage. It was observed that people generally believed that during pregnancy the use of English medicines, which are generally considered 'hot' or 'strong', would affect adversely the foetus and hence, as far as possible, the pregnant mothers should avoid use of all drugs including vaccines. These wrong beliefs were, to a great extent, responsible

for not seeking T.T. during pregnancy. Even the iron tablets were avoided. Because of the ignorance on the part of the mothers, if the first dose of T.T. was taken the full course was rarely completed. The lack of appreciation for the necessity of medical check-up of the pregnant mothers is reflected in Table 22. The table shows that about 67 per cent of the mothers in Bihar, 42 per cent in Gujarat and 24 per cent in Kerala did not undergo any medical check-up during their last pregnancy. A probing as to why they did not undergo any check-up revealed that most of them (about 80 to 90%) felt that there was no need of medical check-up during pregnancy. Thus, MCH coverage among the pregnant mothers cannot be increased considerably unless attempts are made to educate the mothers about the necessity and importance of various cares during pregnancy. At the same time, it is also important that MCH programme, which presently seems to be neglected, should be geared to meet the demand created by making available all the necessary facilities at the community level.

Table 22

PERCENTAGE OF WOMEN WHO UNDERWENT MEDICAL CHECK UP DURING PREGNANCY (DURING THE LAST TWO YEARS)

	Bihar	Gujarat	Kerala
Per cent did not undergo any medical check-up	67.0	41.8	23.9
Got checked up at PHC/Govt. hospital	14.7	44.0	43.5
Got checked up at Private clinic	18.3	14.2	32.6
Total number of pregnant cases	276	225	279
Number of sampled households where no pregnancy was reported during the last two years	353	416	351
Percentage of the pregnant cases who did not undergo medical check-up reporting that there was no need of any medical check up during the pregnancy	80.5	92.4	65.8

Place of delivery & the person who assisted

An analysis of the place of delivery clearly indicates that the largest proportion of institutional deliveries including deliveries at PHC, Government and private hospitals, were taking place in Kerala (41%), followed by Gujarat (25%) and least in Bihar (18%) (Table 23). The institutional deliveries in Kerala were not only confined to villages where PHCs/SCs were located but also in the remote villages. In the case of Gujarat the institutional deliveries were mainly confined to PHC/SC villages (41%) than in remote villages (9%). In Bihar, the institutional deliveries remained low irrespective of type of village (18%).

Table 23

PLACE OF DELIVERY AND PERSON WHO ASSISTED THE DELIVERY BY TYPE OF VILLAGE

Place/Person	Bihar			Gujarat			Kerala		
	PHC/ SC	Remote village	Any	PHC/ SC	Remote village	Any	PHC/ SC	Remote village	Any
Place of Delivery									
Institutional Delivery	17.4	19.5	18.4	41.1	9.0	25.3	42.9	39.2	40.6
PHC	8.0	6.7	7.4	23.1	3.6	13.5	4.0	2.1	2.7
Govt. hospital	1.6	8.1	6.0	6.0	3.6	4.8	26.2	20.4	20.3
Private hospital	5.8	4.7	5.0	12.0	1.8	7.0	12.7	10.7	11.6
Home Delivery	82.6	80.5	81.6	58.9	91.0	74.7	57.1	60.8	59.4
Husband/in-laws' home	73.9	71.8	79.9	54.6	86.5	70.3	50.8	50.8	50.8
Parents' home	8.7	8.7	8.7	4.3	4.5	4.4	6.3	10.0	8.6
Person Assisted									
Trained Personnel	33.3	30.2	31.7	75.2	34.8	55.4	59.5	47.1	53.0
Govt. doctor	8.1	14.1	11.4	4.3	1.8	3.1	28.6	22.9	25.5
Private : doctor	5.9	6.0	5.3	6.8	0.0	3.5	11.9	10.0	10.0
ANM/LHV	14.0	8.0	11.0	42.7	17.0	30.1	16.7	12.9	14.7
Trained Dai	5.9	2.0	3.9	21.4	16.1	18.8	2.4	1.4	1.9
Untrained Personnel	66.7	69.8	68.3	24.8	65.2	44.6	40.5	52.9	47.0
Untrained Dai	61.7	68.6	65.6	23.1	55.3	38.9	34.1	48.6	41.7
Others	4.4	1.3	2.0	1.7	9.8	5.6	6.3	4.2	5.3
Total (N)	138	149	287	117	112	229	126	140	266

It is further interesting to note that among the women in Gujarat the most preferred institution was PHC. Whereas the women in Kerala preferred to go to district (Government) hospitals or private hospitals, very few pregnant women went to PHC. The reasons for such differential preference in two states could be because of the easy transportation facilities in Kerala and hence people instead of going to PHC preferred to go to district Government hospitals, which are having well equipped maternity wards. A similar analysis on the personnel, who assisted deliveries, shows that 32 per cent of the deliveries in Bihar, 55 per cent in Gujarat and 53 per cent in Kerala were attended by trained personnel like doctor, ANM, LHV and trained Dai. A close examination of Table 23 further indicates that the proportion of deliveries attended by better trained persons like doctor, ANM and LHV (including trained Dai) was the highest in Gujarat (52.0%), followed by Kerala (42.1%) and Bihar (26.3%).

Further, the analysis of the data by type of village shows that a larger proportion of the mothers from the PHC/Sub-centre villages, as compared to the remote villages, was attended by trained personnel. However, the difference was much

sharper in Gujarat (40% points) than in Kerala (12% points). The difference in Bihar was almost negligible (3% points, Table 23).

District-wise analysis in respect of the place of delivery and the person attended indicates that percentages of cases who had institutional deliveries were higher in good performing districts. However, the difference was highest in Kerala (48% points: 71% in Trivandrum, 23% in Malappuram), followed by Gujarat (31% points: 42% in Baroda, 11% in Dangs) and the least in Bihar (19% points; 27% in Patna, 8% in Santhal Pargana) (Table 24).

Table 24

PLACE OF DELIVERY AND PERSON WHO ATTENDED THE DELIVERY BY DISTRICT

Place/Person	Bihar			Gujarat			Kerala		
	P	S	C	B	D	C	T	M	C
Place of Delivery									
Institutional	26.6	8.4	18.4	41.9	11.3	25.3	70.8	22.7	40.6
PHC/Govt. Hospital	20.0	4.6	13.4	26.7	11.3	18.3	62.5	69.2	29.0
Private	5.8	3.8	5.8	15.2	0.0	7.0	8.3	13.5	11.6
Non-institutional	73.4	91.6	81.6	58.1	88.7	74.7	29.2	77.3	59.4
Husband/in-laws' home	62.2	85.4	72.8	50.5	87.1	70.3	20.8	68.1	50.9
Parents' home	11.2	6.2	8.8	7.6	1.6	4.4	8.4	9.2	8.5
Person Attended									
Trained	40.2	21.7	31.7	61.9	50.0	55.4	85.4	33.7	53.0
Govt. Doctor	16.4	5.3	11.4	3.8	2.4	3.1	53.1	8.6	25.5
Private Doctor	5.9	4.7	5.3	6.7	0.8	3.4	6.3	13.5	10.9
ANM/LHV	14.6	7.0	11.1	34.3	26.6	30.1	22.9	10.4	14.7
Dai	3.3	4.7	3.9	17.1	20.2	18.8	3.1	1.2	1.9
Untrained - Dai	57.2	75.2	65.4	31.4	45.2	38.9	4.2	64.5	41.7
Others	2.6	3.1	2.9	6.7	4.8	5.7	10.4	1.8	5.3
Total no. of delivery cases during last two years									
	135	152	287	105	124	229	100	166	266

P-Patna, S-Santhal Pargana, B-Baroda, D-Dangs, T-Trivandrum, M-Malappuram, C-Combined

Again, a larger percentage of deliveries from good performing districts was assisted by trained personnel than those of poor performing districts.

The practice of institutional delivery and the larger proportion of deliveries assisted by trained personnel in Kerala perhaps were the key factors which have helped in reducing infant mortality.

A probing of the mothers who did not take the assistance from the PHC staff during their deliveries, revealed that the main reason for not seeking help from them was their belief that for the normal pregnancy there was no need to call the

PHC staff (Table 25). The other area specific reason was low credibility of the workers in Bihar as 11 per cent mentioned that they would charge money and another 5 per cent added that they would not pay much attention. About 9 per cent of the mothers in Bihar also said that the PHC is at far off place and many times the workers were not available. In Gujarat and Kerala about 12 to 16 per cent did not call the PHC staff because of their traditional outlook. The belief prohibits women for calling any outsider and attending their deliveries.

Table 25

REASONS FOR NOT CALLING THE PHC STAFF FOR ASSISTING THE DELIVERY

Reason	Bihar	Gujarat	Kerala
It was a normal delivery hence no need of calling PHC staff	24.7	33.7	22.4
No practice of calling outsiders for help in the delivery	2.0	16.1	11.7
They do not give proper attention	5.2	0.4	0.7
They charge money	11.5	0.0	0.4
Not available at nearby place, PHC is at far off place	9.1	1.7	1.1
Not applicable as help was taken from PHC staff/			
Delivered at PHC	28.6	41.6	56.4
Others	18.9	7.9	7.3
Total (N)	287	229	266

Coverage of children (0-4 years) under immunization programme

Table 26 presents the extent of coverage of children (0-4 years) under various immunization programmes. The overall performance of the immunization programme for children in Gujarat was better than Kerala and Bihar. In the case of Gujarat, about 83 per cent of children were given BCG vaccination against 33 per cent in Kerala and 3 per cent in Bihar. Similarly, the percentage of children under 5 years of age, who were given polio vaccine was 57 in Gujarat, 48 in Kerala and only 9 in Bihar. Similar performance was observed in the case of triple antegen. This is somewhat surprising as we were expecting a better performance in Kerala than in Gujarat. However, as seen in the earlier sections, generally, the performance of Gujarat was found to be better than that of Kerala. The marked difference between Bihar and other two states was mainly due to the reasons already mentioned, such as practically non-functioning of sub-centres and no special efforts on the part of the PHCs to organise special baby clinic at the PHC.

It may be interesting to point out that in Kerala and particularly in Gujarat, the level of coverage of children against infectious diseases like TB, Polio, Tetanus,

Whooping cough, Diptheria *etc.* was much better than expected as earlier the respondents had displayed a total ignorance (particularly in Gujarat) about the correct means of protection against these diseases. In other words, the level of knowledge was much lower than the level of practice of preventive care. One of the explanations of this inconsistency could be that the respondents knew the names of various immunizations, but they were not sure that which vaccine provides protection against which disease. For example, they knew that their children were given triple antegen and BCG injections but they were not sure which of them was meant for protection against what disease. This could happen because the health (extension) workers did not impart adequate information about these diseases and corresponding preventive care.

Table 26

COVERAGE OF CHILDREN UNDER IMMUNIZATION PROGRAMME

(Percentage)

Vaccine	Bihar			Gujarat			Kerala		
	PHC/ SC	Remote village	Any village	PHC/ SC	Remote village	Any village	PHC/ SC	Remote village	Any village
BCG	3.2	2.5	2.8	85.8	79.5	82.6	36.4	30.6	33.3
Small-pox	28.9	23.3	26.1	51.1	39.0	45.1	27.1	24.5	25.7
Polio	7.8	10.7	9.2	62.7	49.0	56.8	53.7	43.2	48.1
Triple Antegen	13.9	12.4	13.1	74.6	66.0	51.1	51.1	39.9	45.1
Cholera	8.4	3.2	5.8	25.0	24.3	24.7	11.5	9.4	10.3
Total number of children in sampled families (below five years)	346	347	693	260	259	519	313	363	676

CHAPTER 4

Knowledge, Attitude and Practice of Family Planning

In this chapter attempts have been made to study the knowledge, attitude and practice of family planning among the sample couples. The other related aspects, like sources of motivation for acceptors of contraception, extent and quality of follow-up, *etc.* have also been studied and discussed here.

Awareness of Family Planning Methods

Table 27 shows that the awareness of the two permanent methods, *viz.* Vasectomy and Tubectomy was almost universal. The percentage of couples, who were aware of these two methods ranged from about 88 in Bihar to about 97 both in Gujarat and Kerala. However, the other modern temporary methods like IUD, oral pill and condom were less known in all the three states. The percentage of couples, who were aware of IUD was found to be 39 in Bihar, 32 in Gujarat and 46 in Kerala. Awareness about the pill was the least and it was heard by only about 30 per cent in Bihar, 22 per cent in Gujarat and 37 per cent in Kerala. The situation with regard to condom was the best in Kerala (64%), somewhat better in Bihar (46%) and the least in Gujarat (34%). Notably, the traditional methods were not considered as family planning methods by most of the respondents. However, a small proportion of the respondents from Kerala mentioned abstinence (12%) and safe period (14%) as family planning methods. The above analysis indicates that still a fairly large proportion of couples were unaware of modern temporary methods.

Thus, the above analysis suggests that during their family planning extension and motivational work, the change agents perhaps were concentrating only on permanent methods and were not mentioning about other contraceptives. Relatively, awareness about the range of methods was best in Kerala. The table further shows that the level of awareness of the two permanent methods remained more or less same both in good and poor performing districts of Gujarat and Kerala. However, in Bihar, awareness of the sterilization was better in good performing district (97%) as against poor performing district (80%). In the case of the temporary methods, while in Gujarat and Bihar, awareness was better in good performing districts, in Kerala it was the other way round. For instance, in Bihar, 55 per cent of the respondents in good performing district as against 36 per cent from poor

performing district were aware of condom. This gap was still wider in the case of Gujarat. However, in the case of Kerala, condom was known to a larger proportion of couples in the poor performing district (69%) than in the good performing district (59%). The reasons for such difference perhaps could be attributed to the presence of relatively large proportion of Muslims in Malappuram district sample. It has been generally observed that because of certain religious beliefs the temporary methods (including natural family planning) became more popular than the two permanent methods among Muslims.

Table 27

PERCENTAGE OF RESPONDENTS WHO WERE AWARE OF FAMILY PLANNING METHODS
BY DISTRICT AND STATE

FP Method.	Bihar			Gujarat			Kerala		
	P	S	C	B	D	C	T	M	C
Vasectomy	96.8	79.6	88.2	95.4	99.4	97.4	93.7	97.5	95.6
Tubectomy	96.5	78.1	87.2	99.1	95.3	97.2	95.6	97.8	96.7
IUD	50.2	27.2	38.6	44.9	18.3	31.7	44.5	47.3	45.9
Oral Pill	33.8	25.9	29.8	34.5	8.4	21.5	37.0	36.1	36.5
Condom	55.2	35.8	45.4	56.3	19.9	38.2	58.9	69.0	63.9
Withdrawal	0.9	1.2	1.1	3.4	0.3	1.9	4.1	6.6	5.3
Safe period	3.2	1.2	2.2	7.4	0.3	3.9	13.2	14.4	13.8
Abstinence	7.9	3.9	5.8	4.6	0.6	2.6	4.7	19.7	12.2
Total (N)	317	324	641	325	322	647	319	319	638
Mean number	3.4	2.5	2.9	3.4	2.4	2.9	3.5	3.9	3.7
S.D.	1.5	1.6	1.3	1.0	1.1	1.5	1.4	1.4	1.5

P-Patna, S-Santhal Pargana, B-Baroda, D-Dangs, T-Trivandrum, M-Malappuram, C-Combined

Attitude Towards Family Planning

Table 28 shows that the respondents in all the three states by and large had favourable opinion towards contraception. The percentages of the respondents, who approved contraception was 86 in Bihar, 92 in Gujarat and 86 in Kerala. The districtwise analysis shows that in Bihar and Kerala a slightly large proportion of respondents, in poor performing districts (13 to 14%) than in good performing districts (around 3%) expressed their disapproval to family planning. In Gujarat, the corresponding proportion was about 5 per cent in both the districts.

On probing about the practice of giving incentives to family planning acceptors, it was learned that in all the three states most of the respondents (75 to 77 per cent) had approval for such incentives on the ground that it was needed by the acceptors from poor families to purchase nutritious food and medicines after

sterilization. The remaining (about 25 per cent) respondents did not favour it at all thinking that it meant for bribing the acceptors of family planning (mainly sterilization).

Table 28 .

ATTITUDE ABOUT FAMILY PLANNING

Attitude	(Percentage)								
	Bihar			Gujarat			Kerala		
	P	S	C	B	D	C	T	M	C
Approves	95.2	81.4	88.8	88.9	94.4	91.6	96.5	75.2	85.8
Neutral	1.6	4.3	3.0	6.5	0.6	3.6	0.9	9.4	5.2
Disapproves	3.2	13.3	8.2	4.6	5.0	4.8	2.5	15.4	9.0
Total (N)	317	323	640	325	321	646	317	318	635
NA	0	1	1				2	1	3

P-Patna, S-Santhal Pargana, B-Baroda, D-Dangs, T-Trivandrum, M-Malappuram, C-Combined

Level of Family Planning Adoption

Table 29 shows considerable variation in the acceptance of family planning between Bihar on the one side and Gujarat and Kerala on the other. The propor-

Table 29

METHODWISE FAMILY PLANNING ADOPTION BY DISTRICT

Method	(Percentage)								
	Bihar			Gujarat			Kerala		
	P	S	C	B	D	C	T	M	C
Current Users	31.9	22.2	27.0	65.0	49.0	57.3	87.5	52.4	70.0
Vasectomy	7.9	5.2	6.6	11.4	35.1	23.2	19.1	6.3	12.7
Tubectomy	15.8	8.0	11.9	50.8	11.2	31.3	58.0	16.9	37.4
Loop/IUD	-	0.3	0.2	1.5	0.3	0.9	1.6	2.5	2.1
Oral Pill	0.3	0.9	0.6		0.3	0.2	0.3	1.3	0.8
Condom	5.7	6.2	5.9	1.5	0.9	1.2	6.0	16.6	11.3
Natural Methods	2.2	1.5	1.9	0.6	1.2	0.9	2.5	8.8	5.6
Past Users	0.3	0.6	0.5	1.8	0.3	1.1	1.2	5.6	3.4
Loop/IUD	-	-	-	0.6	-	0.3	-	0.6	0.3
Oral Pill	-	0.3	0.2	0.3	-	0.3	0.3	0.3	-
Condom	0.3	0.3	0.3	0.9	0.3	0.5	0.9	4.7	2.8
Never Users	67.8	77.2	72.5	32.0	50.6	41.3	11.3	42.0	26.6
Total (N)	317	323	641	325	322	647	319	319	638

P-Patna, S-Santhal Pargana, B-Baroda, D-Dangs, T-Trivandrum, M-Malappuram, C-Combined

tions of current users in the three state samples were 27 per cent in Bihar, 57 per cent in Gujarat and 70 per cent in Kerala. As expected, sterilization was the main family planning method adopted by the couples to protect themselves from unwanted pregnancies. Among the modern temporary methods, condom was the only contraceptive which was being used by a small proportion of the respondents in Bihar (6 per cent) and Kerala (11 per cent). In Gujarat, none of the modern temporary methods was used by more than one per cent of the eligible couples. It is interesting to note that current usership of natural family planning methods was slightly better in Kerala (6 per cent) than in Bihar (2 per cent) and Gujarat (1 per cent). In Kerala also its use was largely confined to Malappuram district, the poor performing district of Kerala. As discussed earlier, the district Malappuram has considerably large proportion of Muslims, who perhaps preferred modern temporary methods and natural family planning methods to sterilization for religious reasons. The usage pattern of this nature is corroborated here by Table 29.

In all the three states, district-wise analysis of the data indicates that the current usership of contraception was much higher in the good performing districts than in the poor performing districts. The difference was highest in Kerala (35 per cent points), followed by Gujarat (17 per cent points) and Bihar (10 per cent points).

Who Motivated Couples for Contraception?

To understand the role played and the importance the couples attached to the motivational efforts made by the change agents, all respondents, who had accepted one or the other family planning methods, were asked to name the person, who was instrumental in his/her acceptance of contraception. The responses of sterilized couples analysed are presented in Table 30. As regards the temporary methods, the number of couples were not adequate to do any further analysis and hence only some discussion has been made on the basis of the available data.

Table 30 shows that in Gujarat and Kerala the PHC staff and doctors were more successful in their motivational efforts as compared to their counterparts in Bihar. It is apparent from the fact that only about 22 per cent of the sterilized couples in Bihar, as against 43 per cent in Gujarat and 37 per cent in Kerala mentioned PHC staff/doctors as their main source of motivation. Others including friends, relatives and CHVs were responsible for about 13 per cent sterilization cases in Bihar, 8 per cent in Gujarat and 18 per cent in Kerala. Percentage of those who claimed that they got themselves motivated or by their spouses was highest in Bihar (63), followed by Gujarat (46) and Kerala (42).

We have seen in the earlier section that in all the three states, among the temporary methods, condom had relatively more acceptance among couples. As regards the source of their motivation, 17 out of 36 (47.8 per cent) acceptors from Bihar, 6 out of 13 (48.2 per cent) from Gujarat, and 14 out of 115 (12.2 per cent) from

Kerala reported the PHC staff/doctors as their source of motivation. In all the three states, most of the remaining users of condom reported that they themselves got motivated or their spouses suggested its use.

Table 30
SOURCE OF MOTIVATION FOR THE STERILIZED COUPLES

Source	(Percentage)								
	Bihar			Gujarat			Kerala		
	Vasec- tomy	Tubec- tomy	Steri- liza- tion	Vasec- tomy	Tubec- tomy	Steri- liza- tion	Vasec- tomy	Tubec- tomy	Steri- liza- tion
PHC Staff/Doctor	19.5	23.0	21.5	48.6	36.3	42.6	42.7	35.4	37.2
Private doctors	2.4	1.5	1.8	2.4	6.5	4.1	0.0	4.0	1.0
Self/Spouse	70.7	61.5	63.4	46.5	44.0	45.8	44.1	40.9	41.7
Others	7.4	15.0	13.1	3.5	12.2	1.0	13.2	19.7	18.0
Total sterilized couples	42	65	107	144	168	312	68	198	266
NA		11	11	6	33	39	13	41	54

In the case of IUD, none of the ten IUD acceptors from Gujarat and only 5 out of 26 from Kerala reported PHC personnel as their source of motivation or information. In Kerala, 14 IUD acceptors were motivated by private doctors. In Bihar, there was only one IUD acceptor. This confirms the low interest that the change agents had in the promotion of temporary methods.

Place of Operation

Most of the vasectomy acceptors got operated at one or the other government institutions, like PHC, government hospital or camps at Sub-centres. In Bihar, a small proportion of them (12 per cent) was operated at private hospitabls. In the case of tubectomy, the role of private institutions seemed to be more significant as about 27 per cent of the acceptors both in Bihar and Gujarat and 12 per cent in Kerala used services of private hospitals for getting themselves sterilized. It is possible that these tubectomies were performed on women after their last deliveries conducted in these private hospitals.

Practically, all IUD insertions both in Gujarat (8 out of 10) and Kerala (25 out of 26) were done at the PHCs or some other government hospitals. The IUD insertions were largely (6 out of 8 in Gujarat and 24 out of 25 in Kerala) done by LHVs/ANMs in both the states.

Follow-up Services

From Table 31 it is apparent that follow-up visits by the PHC staff to the sterilized persons was poor in all the three states. 84 to 92 per cent of the vasectomised persons reported that they were never visited by any PHC staff to enquire about their health after operation.

Table 31

PERCENTAGE OF STERILIZED COUPLES REPORTING THE HOME VISITS OF
PHC STAFF AFTER OPERATION

	Bihar	Gujarat	Kerala
Percentage of couples who were given follow-up services:			
Male operations	7.5	11.8	16.4
Female operation	10.7	13.3	33.7

Similarly, 85 per cent or more tubectomy acceptors in Bihar and Gujarat were never visited by any extension workers after their tubectomies were performed. In this regard, the situation was slightly better in Kerala where about 34 per cent of tubectomy acceptors were visited by one or the other PHC staff to enquire about their well being.

CHAPTER 5

Location of PHCs, their Infrastructures and Accessibility

The physical contours of the area in which the PHCs/ Sub-centres are located and the extent of logistic support received in terms of human and material resources make major difference in increasing their accessibility and utilization. Similarly the socio-economic characteristics of the change agents, their attitude towards and practice of family planning, professional training and quality of supervision they receive, their interaction with and support from formal and informal leaders of the community in their work and logistic support they receive have considerable influence on the functioning of the Family Planning Programme at PHC and Sub-centre levels. In the present chapter some of these aspects have been analysed and a brief discussion made.

Selected PHCs and their infrastructure

Physical profile

As can be seen from Table 32, all the PHCs except 2 in Gujarat and one in Bihar had more than 1,00,000 population in the areas of their jurisdiction. In fact, in Bihar 2 PHCs had more than 1,50,000 population. One such PHC was present in Kerala sample too. All the three PHCs (1 in Bihar and 2 in Gujarat) which had 60,000 or less population were physically inaccessible because of their location in tribal areas.

The population density of a PHC in Kerala was on an average much higher than the other two states. Higher density of population indicates that the workers had to move in less area/number of villages and it was confirmed subsequently. Except one PHC in Bihar, where the nearest town was about 62 km away, rest all the PHCs were located at a distance less than 40 km from the nearest town. Accessibility of all the selected PHCs was good, they were connected by pucca roads and had direct bus connections.

Except 2 PHCs in tribal areas of Gujarat, each PHC village had many private medical practitioners. In Bihar, in one of the PHC villages there were 1 qualified allopathic doctor and 20 other qualified/unqualified medical practitioners. In Kerala, in one PHC village, there was a private dispensary, in another PHC village,

there was a private hospital and in the third one, there was a private clinic. Hence all the PHC villages except the two tribal PHCs in Gujarat had many alternative sources of health care.

Table 32

PHYSICAL CONTOURS OF THE SELECTED PHC AREAS

	Bihar			Gujarat				Kerala			
	1	2	3	1	2	3	4	1	2	3	4
Population (000')	167.8	157.8	46.8	149.2	104.5	57.0	57.0	120.0	103.1	171.3	113.9
Area (Sq. km)	258.9	692.2	168.5	724.0	534.0	87.6	87.6	158.4	86.5	290.0	121.7
Density (per sq.km)	648	228	278	206	185	65	65	760	1192	591	936
Nearest Town(km)	62	10	19	15	22	40	36	16	10	19	16
Accessibility	G	G	G	G	G	G	G	G	G	G	G
No. of health practitioners in PHC village*	1 + 2	1 + 20	2 + 8	2 + 1	3 + 1	D	D	6 + 2	2 + D	2 + H	C

G - Good, i.e. the PHCs were linked by pucca road and were well connected by bus services

* Qualified allopath doctor + qualified/unqualified health practitioners of other system of medicine

H - Private hospital

C - Private clinic

D - Private dispensary

Number of sub-centres in position

Table 33 presents the number of sub-centres attached to each selected PHC and their physical accessibility. The number of sub-centres in each PHC varied from 8 in Bihar to 18 in Gujarat. A comparison of the number of sub-centres in position against the number of sub-centres required as per existing norm (one sub-centre/5000 population in plain areas and one sub-centre/3000 population in tribal and hilly areas) reveals that in all the three states, the number of existing sub-centres was far less than required. The percentage of sub-centres in position against required varied from 29 to 50 in Bihar, 47 to 89 in Gujarat and 42 to 52 in Kerala. Thus, it reveals that as far as the availability of required number of sub-centres is concerned, Gujarat was relatively in better position compared to Kerala and Bihar.

Accessibility of sub-centres

Sub-centres which are closer to PHCs are functioning relatively better as they can be expected to have better supervision. It is true in the areas where PHCs do not have their own transport facility and communication network is poor. As we will see in later part of this chapter, doctors also avoid visiting distant sub-centres and prefer to attend (if they attend at all) to those which are closer and are well connected by pucca or semi-pucca road. Taking the sub-centres located beyond 15 km from PHC, as a measure of remoteness, the analysis reveals that overall Kerala was

relatively in a better position than Gujarat and Bihar as among all the PHCs taken together, only 41 per cent of the sub-centres fell beyond 15 km from their respective PHCs in this state as against 69 per cent in Gujarat and 63 per cent in Bihar. If we also consider the fact that the communication network is much better in Kerala than the remaining two states, most of the sub-centres in Kerala are well within approachable distance and hence are easier to get supervised and visited by doctors.

Table 33

NUMBER OF SUB-CENTRES, THEIR DISTANCE FROM PHC & ACCESSIBILITY

	Bihar*			Gujarat*				Kerala*			
	1	2	3	1	2	3	4	1	2	3	4
No. of sub-centres working in the PHC area	13	9	8	18	11	17	9	10	11	16	11
No. of sub-centres required according to present norm	30	32	16	30	21	19	19	24	21	34	23
Percentage of Sub-centres in position**	39	29	50	60	52	89	47	42	52	47	48
No. of Sub-centres at distance of 15 kms or more from PHC	5	7	7	9	7	14	8	1	4	9	6
	(39%)	(78%)	(88%)	(50%)	(64%)	(83%)	(89%)	(10%)	(36%)	(52%)	(55%)
No. of sub-centres not linked with pucca road	7	8	4	6	3	10	3	1	1	15	5
	(53%)	(89%)	(50%)	(33%)	(27%)	(59%)	(33%)	(10%)	(9%)	(94%)	(45%)
No. of sub-centres not accessible in all seasons	6	6	4	4	1	7	3	1	4	2	1
	(46%)	(67%)	(50%)	(22%)	(11%)	(41%)	(33%)	(10%)	(36%)	(13%)	(9%)

* The numbers under the state indicate the serial number of PHC selected.

** The values in the third row are obtained by taking percentage ratios of the figures in the first and the second rows.

A comparison between the good and poor performing districts reveals that in all the three states the proportion of sub-centres located beyond 15 km from PHC was lesser in good performing districts than those in poor performing districts. For example, in Bihar 39 per cent of the sub-centres in good performing districts as compared to 82 per cent in poor performing districts fell beyond 15 km from their PHCs. The corresponding figures were 55 and 84 in Gujarat and 24 and 55 in Kerala respectively.

The relative remoteness of the sub-centres in the three states is also reflected by the proportion of sub-centres inaccessible in all the seasons. Taking all the PHCs

together, the largest proportion of sub-centres which were inaccessible in all the seasons was reported from Bihar (16 out of 33 *i.e.* 53%), followed by Gujarat (15 out of 55 *i.e.* 27%) and the least in Kerala (8 out of 48 *i.e.* 17%).

Number of villages to be covered by the health worker

An analysis of the number of villages to be covered by the health worker shows large variation both within as well as among the states. Kerala is densely populated, where 90 per cent of the population live in the villages, the size of which is about 10,000 as compared to Bihar and Gujarat, where the villages are relatively more thinly populated and widely scattered over the area. Further, the communication net-work in Kerala is well developed as compared to Bihar, which has poor communication facilities and most of the villages in districts like Santhal Pargana, a tribal district in Bihar, where villages are very small and widely scattered, are inaccessible particularly during rainy season.

As the allocation of the sub-centres and PHCs are based on the population size, the number of villages to be covered and the area to be travelled are much higher in Bihar, followed by Gujarat as against the situation in Kerala. For example, 95 per cent of the health workers in Kerala had to cover only 5 villages as compared to 20 per cent in Gujarat and 17 per cent in Bihar (Table 34). Similarly, a comparison among the backward districts of the three states shows that the percentage of workers, who had to cover 10 or more villages, was as high as 80 per cent in Bihar, 54 per cent in Gujarat and only 5 per cent in Kerala. Obviously, this puts considerable strain on the workers and in the absence of any transport, it becomes physically impossible for them to cover even a sizeable proportion of it.

Table 34

NUMBER OF VILLAGES TO BE COVERED BY A HEALTH WORKER

No. of villages	Bihar			Gujarat			Kerala		
	P	S	C	B	D	C	T	M	C
1 - 5	28.3	-	17.1	26.9	8.8	19.8	98.6	90.3	94.8
5 - 10	50.0	20.0	38.2	17.3	37.2	25.6	1.4	4.8	3.0
10 +	21.7	80.0	44.7	56.8	54.0	54.6	0.2	4.9	2.2

P-Patna, S-Santhal Pargana, B-Baroda, D-Dangs, T-Trivandrum, M-Malappuram, C-Combined

During the case studies, a discussion with the female workers in Bihar, showed that they try, as much as possible, to avoid travelling because of the hardships they had to undergo due to lack of transport, particularly during rainy season. Further, they added that they had to travel a lot of distance on foot and they were always worried to get back to home for security reasons. The doctors also confirmed that

the law and order situation was not encouraging the female functionaries to move alone in the field. They also confirmed that the area to be covered was much larger for each individual functionary and it was physically not possible to cover without any transport facility. In Kerala, such problem was not observed and in Gujarat because of relatively better communication network the life of extension workers was not so difficult as compared to Bihar. Further, as the workers in Gujarat were living in the work area they were saving considerable time and hence they had more time to concentrate on their extension work.

A comparison of the good and poor performing districts within the same state showed that inaccessibility of villages in the poor performing districts was much more conspicuous. For example, in Gujarat 74 per cent of the health workers from poor performing district as compared to 38 per cent from the good performing district complained about the inaccessibility of the villages. The corresponding figures for Kerala and Bihar were 48 & 24 and 47 & 45 respectively.

Physical infrastructural facilities at the PHC

- a) *Building:* All the PHCs covered under this study had their own building. The PHCs in Gujarat had relatively more space and number of rooms than those in Kerala and Bihar. Space problem was felt (and expressed by doctors) much more strongly in Bihar than the other two states.

Table 35

PHYSICAL INFRASTRUCTURAL FACILITIES AT THE PHC

Facility	Bihar			Gujarat				Kerala			
	1	2	3	1	2	3	4	1	2	3	4
No. of rooms	12	8	7	16	17	10	10	-	9	14	13
Delivery room	A	NA	NA	A	A	A	A	A	A	A	NA
Transport	AO	2*	NA	2	AO	A	2*	1	1	1	1
Accommodation											
No. of doctors† for which accommodation available	1	2	1	2	2	2	1	NA	NA	NA	NA
BEE	A	NA	NA	A	A	A	NA	NA	NA	NA	NA
LHV	A	NA	NA	A	A	A	A	NA	NA	NA	NA
Compounder	A	A	NA	NA	A	A	A	NA	NA	NA	NA
Class IV/Others	A	A	A	A	A	A	A	NA	NA	NA	NA

A - Available

NA - Not available

AO - Available on road * - Out of order

† - In Bihar each PHC had 4 posts of doctor as compared to 3 in Gujarat and Kerala. The number in the table specifies those who were provided accommodation.

NA - Not ascertained

- b) *Delivery room:* Out of the three PHCs in Bihar, two were not provided with the delivery rooms. In one PHC, the doctor had converted bath-room into the delivery room. All the PHCs in Gujarat and 3 out of 4 in Kerala had delivery rooms (Table 35).
- c) *Transport:* Out of the 3 PHCs in Bihar, one PHC had a vehicle on road (Table 35). In one PHC, it was out of order for several months, while in another one it was not available at all. In Gujarat and Kerala, all PHCs had at least one vehicle. However, in Gujarat the vehicle of one of the PHCs was out of order at the time of survey.
- d) *Accommodation:* Accommodation facilities for PHC staff (doctors, BEE, LHV, Compounder etc.) were much better in Gujarat, where almost all the staff were provided with residential quarters in the PHC premises itself (Table 35). In Bihar, at least one of the doctors (MO I/C) was provided with a residential quarter. In one of the good performing PHCs, the residential accommodation was provided to the BEE, LHV and Compounder also. The most surprising situation was witnessed in Kerala where the accommodation facilities were not provided to the staff including the doctors.

Instruments and equipments

Table 36 presents the availability of various instruments and equipments at the selected PHCs. While all the PHCs in the three states were fairly well equipped for their day to day functioning, some of the facilities which were lacking are mentioned below:

Facilities for testing haemoglobin:

It was not available or not functioning in 2 out of 3 PHCs in Bihar, 3 out of 4 in Gujarat and 2 out of 4 in Kerala.

Stool testing equipment:

It was not available in 1 out of 3 PHCs in Bihar, 3 out of 4 PHCs in Gujarat and Kerala each.

Oxygen cylinder:

It was not available in 1 out of 3 PHCs in Bihar, 1 out of 4 PHCs in Gujarat and 2 out of 4 PHCs in Kerala.

Refrigerator:

It was not available in all the PHCs but was in working condition in only 1 out of 3 in Bihar, 3 out of 4 in Gujarat and 1 out of 4 in Kerala.

Table 36

INSTRUMENTS/EQUIPMENTS AVAILABLE FOR VARIOUS TESTS AT SELECTED PHCs

Instrument/Equipment	Bihar			Gujarat				Kerala			
	1	2	3	1	2	3	4	1	2	3	4
Weighing machine	1	1	1	1	1	1	1	1	1	1	1
Blood pressure equipment	1	1	1	1	1	1	1	1	1	1	1
Blood test for haemoglobin	2	1	3	1	2	2	1	3	3	1	1
Blood test (Malaria)	1	1	1	1	1	1	1	1	1	1	1
Urine test	1	1	1	1	1	1	1	1	1	1	1
Urine test for Albumin	1	1	1	1	1	1	1	1	1	1	1
Stool test	1	1	3	3	3	1	3	1	1	3	3
Shadowless lamp	1	1	1	3	2	3	1	3	3	1	3
Sterilisation equipment	1	1	1	1	1	1	1	1	1	1	1
Surgical instrument	1	1	1	1	1	1	1	1	1	1	1
Oxygen cylinder	1	1	3	1	1	3	1	3	3	1	3
Refrigerator	2	2	1	1	2	1	1	2	2	1	2
Tooth extraction equipment	3	3	1	3	3	3	3	3	3	3	3
MTP equipment	3	3	3	1	3	1	3	3	3	3	3
X-ray machine	3	3	3	2	3	1	3	3	3	3	3
Slid projector	3	3	3	1	1	1	1	3	3	3	3
Film projector	3	3	3	1	3	3	3	3	3	3	3

* The numbers in the column headings give the serial numbers of PHCs selected

1 Available and working

2 Available but not working

3 Not available

MTP facility:

It was available only in 2 out of 4 PHCs in Gujarat. None of the PHCs in Bihar and Kerala had this facility.

Slide projector:

It was available in all PHCs of Gujarat but none of the PHCs of Bihar and Kerala had this facility.

Thus, it appears that the PHCs in Gujarat were more equipped and had better facilities than the PHCs in Bihar and Kerala.

Manpower:

The staffing pattern of the selected PHCs, number of staff in position *etc.* are given in detail in Table 37. Table 38 summarises overall position of the vacancies at the time of the study.

As can be seen from the table, about 17 per cent positions of the doctors in Gujarat and 8 per cent in Kerala were vacant. A discussion with the concerned

health authorities in Gujarat revealed that attracting doctors to serve in rural areas was rather difficult task. Most of the fresh doctors coming out of medical colleges have urban background and they prefer to do private practice in urban areas than to work in rural areas.

Table 37

EXISTING STAFFING PATTERN AT SELECTED PHCs AND THEIR SUB-CENTRES

Designation	Bihar			Gujarat				Kerala			
	1	2	3	1	2	3	4	1	2	3	4
Doctor	4	4	4	3	3	2	2	3	3	3	2
Male	3	3	4	2	3	2	1	2	3	2	1
Female	1	1	-	1	-	-	1	1	-	1	1
BEE	1	1	1	2	1	1	1	1	1	1	1
LHV/FHS/PHN	2	2	1	3	4	2	2	3	3	5	2
Supervisor (M) (Sanitary/Malaria/basic health)	4	2	2	10	3	4	4	7	4	6	7
Health Worker	-	14	4	-	-	-	-	-	-	-	-
MPW (Male)	11	-	-	26	15	18	20	-	-	-	-
MFPW/FPHA	-	2	-	-	-	-	-	7	5	6	6
MPW (Female)	10	-	-	19	13	17	12	-	-	-	-
ANM	-	11	8	-	-	-	-	25	13	18	12
Vaccinator	-	7	3	-	-	-	-	1	-	-	-
BHW	-	2	1	-	-	-	-	16	14	14	20
Compounder	1	1	-	1	1	1	1	1	1	1	1
Disinfecter	-	5	-	-	-	-	-	-	-	-	-
Lab. Technician	1	1	1	3	3	3	3	1	1	1	1
Nurse/Staff Nurse	1	-	-	-	-	-	-	1	1	-	-
Clerk	2	-	2	2	2	2	2	2	2	*	*
Nurse Asstt./Lab. Asstt.	-	-	-	-	1	-	-	3	5	2+5	3
Enumerator	-	1	1	-	-	-	-	-	-	-	-
Non-Medical Asstt.	1	-	-	-	-	-	7	5	-	-	-
Leprosy Vaccinator	-	-	-	-	-	-	-	-	-	-	-
Computer	1	1	-	1	1	-	-	-	-	-	-
Ward attendant (M)	-	1	1	-	-	-	1	-	-	-	-
Trained Dai	-	1	2	-	-	-	-	-	-	-	-
Dresser	1	1	1	-	-	-	-	-	-	-	-
Peon/Sweeper	-	3	5	3	3	3	3	1	-	-	1
Sweepress	1	-	-	-	-	-	-	-	-	-	-
H. Servant	3	-	-	-	-	-	-	-	-	-	-
Ayah	-	-	-	1	-	3	-	-	-	-	-
Driver	-	1	-	1	1	2	1	1	-	-	-

* Not ascertained

In the case of other positions like supervisory posts (BEE, LHV *etc.*) and field workers (ANM, MPW(F), MPW(M) *etc.*) also, more vacancies were reported from Gujarat than Bihar and Kerala. The least proportion of the vacancies was reported from Kerala.

Table 38

PERCENTAGE OF VACANCIES BY CATEGORY OF EMPLOYMENT*

Category	Bihar	Gujarat	Kerala
Doctor	0.0	16.7	8.3
Supervisor	5.8	19.4	2.3
Field Worker	9.9	13.0	4.0
Others	4.5	5.0	2.4

* Existing in the selected PHCs as on the date of survey

Further analysis of the available manpower in the selected PHCs revealed that sex composition (percentage of females) of staff was relatively more even in Kerala (45%) than Gujarat (38%). This was largely because of several vacancies of female workers (ANM/MPW) in the later two states (Table 37).

Table 39 also shows that overall both the workers and supervisors in Bihar had much heavier work load than their counterparts in Gujarat and Kerala. For example, population per worker in Bihar was reported to be 5000 as compared to 3000 both in Gujarat and Kerala. Similarly, on an average a worker had to cover about 14.4 sq. km. in Bihar for his work as against 11.4 sq. km. in Gujarat and 3.9 sq. km in Kerala. Thus, high density of population in Kerala, puts its workers in much advantageous position as they do not have to travel much to contact their clients. Whereas, in Bihar (and to some extent in Gujarat also) not only that the workers have to travel longer distances to cover their areas, poor communication net work and inaccessibility of villages during rainy season make their work much more difficult.

Table 39

SOME INDICES MEASURING THE SEX COMPOSITION OF FUNCTIONARIES AND THEIR WORK LOAD

Type of Index	Bihar	Gujarat	Kerala
Sex composition of staff (I)†	38	38	45
Sex composition of staff (II)*	37	36	46
Population per worker	5000	3000	3000
Area per worker (sq. km)	14.4	11.4	3.9
Workers per Supervisor	5	3	4

† Percentage female based on all functionaries

* Excluding supervisory category of functionaries, i.e. LHV, BEE and MPW(s)

Similarly, on an average, a supervisor had the responsibility of supervising 5 workers in Bihar (and accordingly they had to cover a much larger area) against 3 in Gujarat and 4 in Kerala.

CHAPTER 6

Profile of Change Agents & their Opinion about various F.P. Methods

The present chapter compares briefly, at state level, the profile of the functionaries (change-agents), who were interviewed at the 12 selected PHCs. Such comparison is very useful for understanding the differential performance of the states, as the characteristics of the functionaries play vital role in performing their tasks.

Social, Demographic & Economic Profile of Change-Agents

Table 40 presents the summary profile of the functionaries.

Sex ratio

It can be seen from the table that the sex ratio of the functionaries was even in both Gujarat and Kerala, while in Bihar it was slightly biased towards males as they constitute 60 per cent of the total functionaries.

Age of respondents

The functionaries covered in the survey were relatively younger in Gujarat and older in Kerala and in between in Bihar. The table shows that the mean age of the functionaries was 34.4 years in Gujarat and 40.7 years in Kerala, while it was about 37 years in Bihar. In all the three states, the mean age of the male workers was higher than that of the female workers. An average male functionary was reported to be 40.4, 38.4 and 43.3 years old for the states of Bihar, Gujarat and Kerala respectively. The corresponding figures for the female functionaries were 32.7, 31.2 and 38.5 respectively.

Marital status and duration of marriage

Most of the functionaries interviewed were married and their percentage ranged between 84 in Gujarat and 100 in Bihar. On an average, a functionary had 18 years' married life in Bihar, 15 years' in Gujarat and 14 years' in Kerala. Analysis of marital status by sex showed that more female workers than male workers were unmarried at the time of survey. In Gujarat 25 per cent of the female functionaries as against 12 per cent of the male staff were unmarried.

Table 40

SUMMARY PROFILE OF THE FUNCTIONARIES BY STATE

Characteristic	Bihar	Gujarat	Kerala
Sex of Functionary (%)			
Male	60.0	49.0	50.3
Female	40.0	51.0	49.7
Age of Functionary (Years)			
Mean	37.2	34.4	40.7
S.D.	7.9	8.3	6.6
Educational Attainment (%)			
6th - 8th class	20.5	1.2	0.7
9th - 12th	70.5	91.8	81.8
College and above	9.0	7.0	17.5
Marital Status (%)			
Married	100.0	83.9	92.2
Unmarried	0.0	16.1	7.8
Marital Duration			
Mean	18.2	14.7	14.4
S.D.	7.8	7.7	7.7
No. of Living Children			
Mean	2.9	2.4	2.2
S.D.	1.5	1.4	1.1
Religion (%)			
Hindu	92.5	87.4	79.0
Muslim	2.5	6.9	6.3
Christian/Other	5.0	5.7	14.7
Monthly Salary Drawn (Rs.)			
Mean	639	662	732
S.D.	109	147	145
Place belonged to (%)			
Same district	76.2	42.5	63.6
Other district but same state	23.8	54.0	35.0
Other state	0.0	3.5	1.4
Place of Residence (%)			
Outside working area and urban	19.7	0.0	9.1
Outside working area and rural	6.2	0.0	21.0
Working area and rural	74.1	100.0	69.9
Reasons for staying outside (%)			
No accommodation facilities	84.1	0.0	28.9
No food facility	0.0	0.0	5.3
No school facility for children	0.0	0.0	18.4
Own house nearby	10.5	0.0	55.3
No interest (general)	10.5	0.0	28.9

No. of living children

The mean number of living children for the functionaries in Bihar was 2.9. The corresponding means for Gujarat and Kerala were 2.4 and 2.2 respectively.

Native place of the workers

Table 40 further shows that 76 per cent of the functionaries in Bihar were posted in their native districts as compared to 43 per cent in Gujarat and 64 per cent in Kerala. Thus, it can be seen from the table that inter district posting was more common in Gujarat than in Kerala and Bihar. Observations during the indepth study showed that such inter district posting was useful as the workers were not involved in the local politics. It was also observed that the person who were posted in the same district or same block, where they born, found to be more buy in pursuing their family business/farming than concentrating on their duty. This was true also for Kerala.

Place of residence

An analysis of the place of residence and work place showed that in Bihar about 20 per cent of the workers were living outside their work place and staying in urban areas. Yet, another 6 per cent were living outside the work place but in the rural areas. Hence, altogether about 26 per cent of the workers in Bihar were living outside the work area. The corresponding percentage was 30 in Kerala. In contrast, in the case of Gujarat, all the workers (100%) were living in their working areas. Living in the working area makes all the difference in the functioning as they are more easily available to the community than those who live outside the work place. Moreover, in places like Bihar, where communication network is poor, commuting daily from their residence to work place and back itself consumes major portion of their working time and energy. The indepth observations also confirmed this. In the case of Kerala, the situation was slightly better as the communication network was highly developed and hence travelling to the work place was not so time consuming but the problem remained the same, they were less accessible to the community as compared to their counterparts in Gujarat.

A probing on the reasons as to why the workers were not living in their work place revealed in Bihar that non-availability of accommodation in the working area was major problem (84%), whereas in the case of Kerala, half of them were living away from work place as they had continued living in their own houses. Another, about 29 per cent were not interested to live in rural areas. Similarly, about 29 per cent had mentioned "lack of accommodation facilities at place of work" as the reason for staying outside the work place. About 19 per cent were living outside because there were "no school facilities in their work place".

During the indepth studies, a number of field supervisors and extension workers complained as "our field allowance is Rs.50 per month and it is not sufficient at all to meet the expenses even for one week". Some of them questioned, "Do you expect us to spend money from our own pockets to do the official duties"? The discussion with MO I/C and other officials also supported that the allowances were too low and in the absence of any transport facilities they would not expect them to work more than what they were doing.

Monthly salary

An analysis of the total monthly salary of the functionaries in the three states showed that the workers in Kerala were economically better off with higher salary (mean Rs.732) as compared to that of Gujarat (mean Rs.662) and Bihar (mean Rs.639). Tables 41 and 42 show that both the supervisory staff and the workers from Bihar were getting lesser salary than their counterparts in Gujarat and Kerala. Thus, the salary structure of the functionaries was much better in Gujarat, followed

Table 41

MONTHLY INCOME DRAWN BY FUNCTIONARIES BY STATE

Monthly Income (Rs.)	(Percentage)		
	Bihar	Gujarat	Kerala
≤ 500	3.7	9.2	1.4
501 - 600	41.2	27.6	17.5
601 - 700	37.5	33.3	23.8
701 - 800	8.7	12.6	32.2
801 +	8.6	16.2	25.1
Total (N)	80	87	143

Table 42

AVERAGE MONTHLY SALARY FOR DIFFERENT CATEGORIES OF STAFF

Monthly Income (Rs.)	Bihar			Gujarat			Kerala		
	Super- visor	Worker	Any	Super- visor	Worker	Any	Super- visor	Worker	Any
Mean	743.8	603	639	850.8	618.3	661.7	994.3	686.3	732
S.D.	141.6	79.8	109	129.8	115.0	147	138.4	99.1	145
Total (N)	16	64	80	23	64	87	26	117	143
Mean no. of years of service	14.0			9.4			11.6		

by Kerala. This becomes evident if we look into the ratio of average monthly salary of the workers and the average number of years put in the services. The functionaries from Bihar were somewhat poorly paid. This becomes evident from the fact that even though the mean years of service was highest in Bihar (14 years), the mean salary drawn was the lowest. Even the travelling allowance (TA) and dearness allowance (DA) in Bihar was much lower than what was reported in Gujarat and Kerala.

Professional Training

In all the three states, most of the staff had the requisite training to undertake the jobs concerned to their respective programmes. However, about 5 per cent in the case of Gujarat and about 20 per cent in the case of Bihar had not received any training (Table 43). This includes even the required basic training to get selected for the post. In other words, about 20 per cent of the workers (5 out of 16 supervisors and 11 out of 64 workers) in Bihar and 5 per cent of the workers (1 out of 17 supervisors and 3 out of 70 workers) in Gujarat were holding the post without having the required basic training.

Table 43

PERCENTAGE OF FUNCTIONARIES RECEIVED REQUISITE TRAINING IN HEALTH AND FP SERVICES

	Bihar	Gujarat	Kerala
Whether R Received any Training			
Yes	80.0	95.4	100.0
No	20.0	4.6	0.0
Special Training in Family Planning			
Yes	16.3	5.7	25.0
No	82.7	94.3	75.0
M.P.W.			
Yes	16.3	30.8	63.6
No	82.7	69.2	36.4
Mean number of training received	1.3	1.4	2.7
S.D.	1.0	0.9	1.5

Further probing on as to how many of them had received special training in family planning, it was observed that about 16 per cent of the functionaries in Bihar, 6 per cent in Gujarat and 25 per cent in Kerala had received the training. The table also shows that MPW training was yet not fully implemented in Bihar and only 16 per cent of the functionaries attended MPW training. The corresponding percentages for Gujarat and Kerala were 33 and 64 respectively.

On an average, each worker in Bihar and Gujarat had undergone one training as against about three trainings received by an average worker in Kerala. Thus, the table clearly indicates that the staff in Kerala were somewhat better trained than those of Gujarat and Bihar. The discussion with MO I/C and other supervisory staff also supported the above conclusion. Doctors from both Gujarat and Kerala emphasised the urgent need of reorientation courses for the functionaries. During the discussion it was revealed that many of the extension workers were not well equipped to satisfy the queries and doubts of the clients about various family planning methods. In fact, some of the workers themselves shared with clients the doubts of after effects of various contraceptives. While urgency for the reorientation courses was expressed both in Gujarat and Bihar, the need was much more stronger in Bihar, where the educational level of the workers was also relatively low. Commenting on this aspect, one of the MOs I/C in Bihar said “We wanted to educate the clients by the workers, who themselves need education and training in communication techniques. Unless we strengthen ourselves in this aspect not much can be achieved”.

How the training of workers makes all the difference in performance of the district is reflected by the fact that the average duration of training of supervisory staff in the good performing district of Kerala was 6.5 weeks as against 3.5 weeks in poor performing district. Similar observation was made in Bihar also.

Family Size Norms and Family Planning Practices

To see how far the functionaries themselves are motivated for family planning, a probing on their family size norms and practices of family planning was made. Table 44 reveals that the mean completed family size for the functionaries in Bihar was 3.3, followed by 2.8 in Gujarat and 2.5 in Kerala. From the table, it is also apparent that only 59 per cent of the workers in Bihar, between 75 and 78 per cent in Gujarat and Kerala were practising family planning. A break-up of the current users by the methods used, shows that in Gujarat 93 per cent of the functionaries, who were using family planning, were dependent on modern contraceptives as compared to 84 per cent in Bihar and 77 per cent in Kerala.

Table 45 gives the mean number of living children by family planning status of the worker. The table shows that the mean number of children of the never users was 2.5 in Bihar as compared to 1.8 both in Gujarat and Kerala. Similarly, the mean number of children to the sterilized workers in Bihar turned out to 3.5 as compared to 3.1 in Gujarat and 2.5 in Kerala. Considering all these findings one can conclude that the workers from Bihar themselves were pursuing relatively larger family size norm and a larger proportion of them was less motivated to adopt family planning than their counterparts in Gujarat and Kerala. The preference for smaller family appeared to be much stronger in Kerala than any other state.

Table 44

FAMILY SIZE NORM AND FAMILY PLANNING PRACTICES

	Bihar	Gujarat	Kerala
Completed Family Size			
Mean	3.2	2.8	2.5
S.D.	1.7	1.0	1.0
Whether R using any method currently (%)			
Yes	58.8	78.0	74.4
No	41.3	22.0	23.6
Total (N)	80	73	132
Not applicable	0	14	11
F.P. Methods Currently being used (%)			
Vasectomy	14.9	14.0	19.6
Tubectomy	40.4	33.4	27.9
IUD/Loop/Cu.T	6.4	15.8	7.2
Condom	17.0	22.8	20.6
Oral Pills	0.0	7.0	1.0
Other modern methods	4.3	0.0	1.0
Traditional methods	17.0	7.0	22.7
Total no. of users	47	57	101

Table 45

MEAN NUMBER OF LIVING CHILDREN BY FAMILY PLANNING STATUS

FP Status	Bihar		Gujarat		Kerala	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
User of Terminal method	3.50	1.2	3.1	1.1	2.8	0.9
User of non-terminal method	3.20	1.6	2.2	1.5	2.0	0.7
Never user	2.50	1.4	1.8	1.0	1.8	1.4
Any	2.94	1.5	2.4	1.4	2.2	1.1

Perceptions of the Functionaries about Various Family Planning Methods

It is expected that the perceptions of the change agents about possible complications associated with adoption of family planning methods could influence the method emphasis as well as their work performance. It is obvious that a worker who has correct information about the possible after effects of the methods and if he/she explains to his/her clients about both the pros and cons of the method before its adoption, the chance of the method continuation (*e.g.* in case of IUD/Pill) among such clients is higher than those only told the plus points. Thus, having correct

knowledge and perception of the workers about the methods is important for the promotion of family planning. Keeping this in view, each worker was asked about his/her perception about various family planning methods with regard to possible complications associated with their adoption. Their answers have been analysed and presented in Tables 46 and 47 which show that in Gujarat the majority of the workers (ranging between 83% and 93%) believed that none of the methods ever caused any complications. In the case of Bihar, relatively smaller but still a fairly large proportion of the workers (ranging between 57% and 62%) believed that the adoption of vasectomy, tubectomy and usage of oral pills could never cause any complication. In the case of IUD, the corresponding percentage however was about 32.

Table 46

COMPLICATIONS CAUSED BY THE USE OF FAMILY PLANNING

Frequency	Bihar	Gujarat	Kerala
Vasectomy			
Most times	2.5	0.0	8.4
Some times	17.7	2.3	37.1
Rarely	22.8	3.5	46.8
Never	57.0	93.0	6.3
D.K.	0.0	1.2	1.4
Tubectomy			
Most times	2.5	0.0	2.8
Some times	22.8	4.7	16.2
Rarely	11.4	8.1	62.7
Never	62.0	87.2	14.1
D.K.	1.3	0.0	4.2
IUD			
Most times	12.7	0.0	19.0
Some times	25.3	1.2	45.8
Rarely	31.6	8.1	27.5
Never	24.1	82.6	3.5
D.K.	6.3	8.1	4.2
Oral Pills			
Most times	0.0	0.0	8.4
Sometimes	3.8	4.7	29.4
Rarely	7.6	0.0	34.3
Never	59.5	87.2	11.9
D.K.	29.1	8.1	16.1
Total (N)	80	87	143

In Kerala, in contrast to what was observed in Gujarat and Bihar, most of the workers believed that each method could cause certain complications. However, a

further analysis of their responses on the frequency of occurrence of the complications showed that a sizeable proportion (ranging between 28% for IUD and 63% for tubectomy) also believed that such occurrences were rare.

Table 47

NATURE OF COMPLICATIONS CAUSED DUE TO USE OF VARIOUS FP METHODS
AS PERCEIVED BY FUNCTIONARIES

Perceived complication	Bihar	Gujarat	Kerala
Vasectomy			
Weakness/man can't work hard/body weakness	35.3	0.0	17.6
Sepsis/swelling in the region/bleeding/pus formation	41.2	20.6	6.4
Causes pain :/back pain/stomach pain/pain in the genital organ	38.2	40.0	25.2
Pregnancy may not be controlled/the method is not effective	11.8	60.0	35.9
Others	2.9	0.0	6.9
Total (N)	44	5	132
Tubectomy			
Weakness	31.0	45.5	21.2
Bleeding	6.9	9.1	43.2
Pain/back pain/Abdominal pain/muscular pain/pain in stomach	79.3	36.4	60.2
Gain in weight/body becomes fatty	3.4	9.1	14.4
The method may fail/not effective	0.0	9.1	6.8
Others	8.3	9.1	12.7
Total (N)	29	11	116
IUD			
Bleeding/excessive bleeding/discharge/MC gets disturbed	96.4	14.3	94.7
Pain/back pain/pain in stomach/abdominal pain	25.5	85.7	56.1
Weakness/health gets spoiled	1.8	0.0	5.3
Others	9.1	0.0	9.1
Total (N)	55	8	131
Oral Pills			
Vomiting/nautia/giddiness	33.3(2)	25.0(1)	66.7(60)
Irritation	33.3(2)	25.0(1)	16.7(17)
Body pain/stomach pain	0.0	50.0	19.6
Irregular MC/Bleeding	0.0	0.0	8.8(9)
Weakness/weakness of the body	16.7(1)	0.0	10.8(11)
Gain in weight/others	33.3(2)	0.0	20.6(17)
Total (N)	9	4	103

* Figures in brackets indicate the number of functionaries reporting the complications.

If the responses of Table 46 are considered along with Table 47 which presents the perceived nature of complications of the method, it would be seen that the workers of Kerala were equipped with better knowledge as their answers were more realistic as compared to that of the workers from Gujarat, where the majority of the

functionaries believed that the methods could cause no complications at all or those from Bihar where many believed that the methods could cause serious complications.

Work Style, Supervision and Support from other Departmental Agencies

The present chapter analyses the work style of the functionaries, the supervision made by the supervisors and the extent of support they received from the other developmental agencies. The analysis is based on the data collected through interviews of the PHC staff and observations made during the case studies of the selected PHCs.

Perceived Roles of the Field Workers

In an attempt to understand as to what activities and programmes were given emphasis at the stage of their actual implementation, each worker was asked to list out various jobs he/she would carry out in the field. The analysis of their responses given in Table 48, clearly demonstrates that in all the three states, almost all the workers, reported that they were carrying out family planning work. Similarly, care of the new born and immunization of children were reported by almost all workers in Gujarat, about eight out of ten in Kerala and six out of ten in Bihar. However, other health care activities particularly mothers' care and public health activities were reported by a very little number of workers. Under MPW scheme, which has been on the ground in Gujarat and Kerala since last four to five years and in the process of implementation in Bihar, each functionary was supposed to carry out multiple jobs related to both health and family welfare programme. However, as can be seen from the table, the scheme was not completely successful in the sense that the workers' concentration was confined to only family planning work and immunization of children while other health activities like pre-natal care, health education, malaria control, environmental sanitation were neglected. That is, by and large, family planning workers were not taking up any other health activities even after being called as MPWs. While this is true to some extent for all the three states, Kerala was relatively better, as a good proportion of workers in the state, apart from family planning and immunization of children, had also mentioned follow-up work, care of pregnant mothers, environmental sanitation etc. as their responsibility. Bihar was as usual at the lowest level of integration of health and family planning programmes. The indepth case studies also confirmed this observation. It was observed in many PHCs, during the peak period of family planning programme (November-March), a series of camps were organised to achieve the family planning targets. During this period, all the medical and paramedical staff at PHC mounded their efforts on the achievement of family planning targets.

ignoring even their daily OPD work. During that period, almost all the field workers would be engaged to bring the family planning cases, ignoring their other pre-planned tours or health work.

Table 48
PERCEIVED ROLES OF THE WORKERS

Perceived role	(Percentage)		
	Bihar	Gujarat	Kerala
Family Planning work	84.4	100.0	83.8
House to house visit and follow-up work	9.4	18.8	27.4
Distribution of Nirodh	3.1	9.4	8.5
Care of pregnant mothers	4.7	3.1	14.5
Giving T.T. injection to mothers	0.0	0.0	8.5
Attending delivery at home	1.6	9.4	4.3
Attending delivery at PHC	14.1	3.1	4.3
Distribution of vitamin tablets	25.0	6.3	11.1
Care of new born and immunization to children	56.3	98.4	79.5
MCH service (general statement)	37.5	56.3	21.4
Malaria work (blood slides)	35.9	43.8	35.9
Environmental Sanitation work	10.9	7.8	17.1
Providing health care (general comment)	26.6	35.9	20.5
Other	1.6	15.5	7.7
Total (N)	64	64	117

The discussion with workers also revealed that in general the family planning workers were happy with the integration of family planning work with other health programmes, as it increased their acceptability in the community. This helped them to distribute contraceptives along with vitamin tablets and other medicines easily. However, the workers, particularly, those who were attending other works like malaria control, vaccination, curative health work etc., were somewhat unhappy as this integration had increased their workload without any increment in their salary. As a result, the majority of the workers were disproportionately allocating their time first to family planning work and then to other functions. After family planning activities, the major share of their remaining time was allocated to the easiest and interesting activities for which they possessed the expertise.

The disproportionate time allotted to family planning work by the extension workers can be further understood by the emphasis given by their immediate supervisors as well as the MO incharge of the PHC for the achievement of family planning targets. The percentage of workers perceiving that their immediate supervisors give maximum emphasis on family planning work varied between 81 and 93 in the three states. Percentage of workers who felt that their supervisors also

emphasised MCH work was highest in Kerala (81%), followed by Gujarat (67%) and the least in Bihar (56%).

Work Style

Follow-up of advance tour programmes

The probes about the follow up of the pre-planned tour programmes, revealed that all the workers in the three states had advance tour programmes made by the supervisors. However, it was also observed that many times these tour programmes were not strictly followed. For example, as high as about 58 per cent of the workers from Bihar reported that sometimes only they followed the advanced tour programmes (Table 49). The corresponding percentages were 29 in Kerala and 14 in Gujarat. The reason told for not adhering to the advanced tour programme was the assignment of the other jobs by the supervisors and doctors. The case studies confirmed that the supervisors particularly the MO incharge used the workers indiscriminately, more for *ad hoc* jobs and hence disturbing their advanced tour programmes.

Table 49

WORKERS' ADHERENCE TO ADVANCE TOUR PROGRAMMES

	(Percentage)		
Level of adherence	Bihar	Gujarat	Kerala
Whether R is able to follow tour programme			
Sometimes	58.2	13.8	28.9
Most of the times	41.8	86.2	71.0
Who prepares tour programme			
Self	70.9	40.7	34.1
Immediate supervisor	7.6	28.7	29.5
M.O. Incharge	19.0	7.5	24.2
Others	2.5	18.0	12.2
Reasons for not following tour programme			
Personal problems	6.5	8.3	
Given other urgent job	93.5	91.7	100.0
Total (N)	46	12	30

Further probing on who makes their tour programmes revealed that in Bihar, the majority (71%) of the workers themselves made their tour programmes, whereas in the other two states, generally the tour programmes were made by their immediate supervisors or the senior supervisors, like MO incharge and other doctors of the PHC. If involvement of the immediate supervisors or MO incharge in the

preparation of tour programmes of the workers is an indication of better and closer supervision of field work, Gujarat and Kerala were in a better position than Bihar.

Persons with whom the change agents interact for motivational work

The analysis of the sex of the person with whom the extension worker interacts for education and motivational purposes shows an interesting pattern. In Kerala, the women were the main targets of extension workers and as high as 82 per cent of the workers reported that either they exclusively interacted with women or mostly with women and occasionally with men (Table 50). In the case of Gujarat, about 45 per cent of the functionaries concentrated on women, about 34 per cent equally on men and women and about 21 per cent mainly on men. In Bihar, while about 40 per cent concentrated on men, 20 per cent equally on men and women, 40 per cent concentrated their efforts on men only. Apparently, efforts on educating and motivating the women is paying dividends in terms of higher acceptance of family planning. The case studies mounted on clients in Uttar Pradesh and Bihar showed that the important bottlenecks for low acceptance of family planning were the apathy of husbands towards birth control, inaccessibility of the facilities and lack of information about various contraceptives to the women. In Kerala, by concentrating on women, this limitation was overcome to some extent. In Gujarat, while the emphasis continued to be on women, in Bihar it was equally on men and women. If the interaction of workers with clients or motivational work is linked with the performance of the three states, it would appear that perhaps the better results can be obtained by educating and motivating the women about the use of MCH and family planning services. As a strategy also, attempts should be made to make these services easily accessible to the women, who are the prime consumers of these services and in turn, perhaps they could also be a good source for motivating their husbands and descending the knowledge to their peer group and younger generation.

Table 50

PERSONS WITH WHOM THE EXTENSION WORKERS INTERACT FOR MOTIVATIONAL WORK

Person	(Percentage)		
	Bihar	Gujarat	Kerala
With women only	6.3	8.0	9.9
Mostly with women, occasionally with men	33.7	36.8	71.1
Men-women equally	20.0	34.5	9.9
Mostly with men, occasionally with women	33.7	18.4	8.5
Only with men	6.3	2.3	0.7
Total (N)	64	64	117

Method of Motivation & Persuasion

Motivational approaches

Table 51 presents the motivational approaches generally used by the workers to promote contraception. In Bihar, generally the worker's efforts were concentrated on individual contact (42%), group meetings including O.T. camps (59%) and health & MCH work (22%) for promoting family planning. In Gujarat, the workers were using individual contact (45.3%) for approaching families with many children (17.4%) and taking assistance from satisfied users (29.0%) to promote contraception. A few workers also mentioned group meetings (13%) and seeking assistance from the target couples' friends to approach them for educating them about family planning (13%).

Table 51

MOTIVATIONAL APPROACHES ADOPTED BY FUNCTIONARIES

Approach	Bihar	Gujarat	Kerala
Individual approach/Individual contact/house to house visits	42.4	45.3	94.3
Group meetings/group discussion/OT camps	58.9	13.0	74.3
Film shows on FP	8.2	8.7	50.7
Pamphlets/publicity	8.2	11.6	50.7
Contacting target couples through their friends	0.0	13.0	2.9
Through voluntary organisation/mahila mandals	0.0	1.4	12.1
Taking the help of local leaders	5.5	5.8	8.6
Contacting largest families	4.1	17.4	2.9
Through health/MCH work	21.9	0.0	15.7
Assuring follow-up services	2.7	0.0	2.9
Working through satisfied acceptors	6.8	29.0	15.6
Others	12.3	18.8	5.7
Total (N)	71	69	140
NA	7	18	3

* Percentages add to more than 100 because of multiple responses.

In Kerala, the majority of the workers used most of the above approaches simultaneously. It included individual contact (94%), group meetings (74%), film shows (51%) and distribution of pamphlets/publicity materials. A comparison of the three states shows that the workers from Kerala were better organised in their motivational efforts. A much larger proportion of the workers in Kerala as compared to the other two states was using individual contact, as one of the main motivational approaches. It is also important to note that many workers (12%) from Kerala as compared to 1 per cent in Gujarat and none in Bihar were also using NGOs and village organisations, like Mahila Mandals for promoting contraception. Similarly, film shows for promoting family planning were reported much more from Kerala (51%) as compared to Gujarat (9%) and Bihar (8%).

When the workers were asked to rank, on the basis of their experiences, three most effective approaches for motivating the target couples for family planning, 'house to house visit' was given the first rank by the largest number of workers from Kerala (55%), followed by Gujarat (27%) and Bihar (23%, Table 52). It is interesting to note that the group meetings were found to be much more effective in Gujarat as compared to Bihar & Kerala and were given first rank by as high as 40 per cent of the workers in Gujarat as against 14 per cent in Bihar and 10 per cent in Kerala. Similarly, the use of satisfied users for promoting contraception was given either 1st, 2nd or 3rd rank by almost 71 per cent of the total workers from Kerala as against 40 per cent in Bihar and 34 per cent in Gujarat. Concentrating on the 'poor people', as an effective strategy for promoting family planning, was mentioned by 58 per cent of the workers in Bihar (17% gave 1st rank) as compared to 24 per cent in Gujarat (2% gave 1st rank) and 35 per cent in Kerala (10% gave 1st rank).

Most persuasive arguments

Table 53 presents the arguments which the workers generally used in the motivational efforts and had found effective. The 'health of mother' was reported to be the most appealing argument for promoting family planning and was given first rank by the larger number of workers in each state. As the table shows, 24 per cent of the workers in Bihar, 14 per cent in Gujarat and 32 per cent in Kerala gave the first rank to this argument. The 'health of the child' was found to be the next most persuasive argument in all the states. 'Welfare of children' (better education etc.) and 'better economy of the family' were some other arguments which were reported to be effective in motivational work. It is important to note that any argument for family planning for the sake of community or country was not perceived as effective by functionaries, as just 5.4 per cent in Bihar and as low as 1.2 per cent in Gujarat and 2.8 per cent in Kerala referred to this argument.

Emphasis on F.P. methods

Table 54 presents the methods on which the workers give emphasis during their motivational work. The table shows that a very large proportion of workers (86%) in Kerala, followed by Bihar (79%) and Gujarat (63%) emphasised tubectomy the most. The second most emphasised method was vasectomy in all the three states. In this respect, Gujarat led (40%) Kerala (37%), followed by Bihar (34%). In Kerala the IUD was also being actively promoted by about 30 per cent of the workers. A comparison of the good and poor performing districts revealed no significant difference in method emphasis of the workers in Bihar. However, in Gujarat, while vasectomy was given much more emphasis in the poor performing district (88%), the tubectomy (85%) was much emphasised by the workers in the good performing district. A probing for the reasons revealed that Dangs, which was taken as the poor performing district, did not have adequate facilities for tubectomy and being a tribal area its accessibility to the teams was also quite poor for organizing Laparos-

Table 52

THE MOST EFFECTIVE APPROACHES IN FP AS IDENTIFIED BY FUNCTIONARIES

Approach	Bihar				Gujarat				Kerala			
	1st	2nd	3rd	Com- bined	1st	2nd	3rd	Com- bined	1st	2nd	3rd	Com- bined
House to house visit in parts of the village that seem friendly	23.1	16.7	9.1	48.9	26.7	34.9	20.0	81.6	54.5	11.2	9.8	75.5
Use of TCR and give priority to families with lot of children	3.8	2.6	18.2	24.6	4.7	3.5	2.4	10.6	4.9	9.8	5.3	21.0
Calling group meetings and spending more time with the people seemed responsive	14.1	20.5	11.7	46.3	39.6	20.9	18.8	79.2	9.8	14.7	12.6	37.1
Taking information through village leader about people in need of FP and spending time with the one indicated	14.1	11.5	16.8	42.5	11.6	15.1	27.0	53.8	1.1	9.1	7.7	18.9
Concentrating on cases where the wife is pregnant because such people are particularly responsive	10.3	17.9	11.7	39.9	2.3	10.5	4.7	17.5	9.8	16.1	22.4	48.3
Concentrating on poor people	16.7	21.8	19.5	58.0	2.3	4.7	16.5	23.5	9.5	11.9	13.3	34.7
Through satisfied users	17.9	9.0	13.0	39.9	12.8	10.5	10.6	33.9	15.4	27.3	28.0	70.7
Total (N)	80				87				143			

* Percentages under combined column add to more than 100 because of pooling.

copic camps. As a result, the vasectomy was found more appropriate method for this area and hence was emphasised most by the workers.

Table 53

FIRST AND SECOND MOST PERSUASIVE ARGUMENTS USED IN MOTIVATING THE COUPLES FOR FP

Argument	Bihar			Gujarat			Kerala		
	1st	2nd	com- bined	1st	2nd	com- bined	1st	2nd	com- bined
Health of children	23.7	44.4	68.1	14.0	47.7	61.7	32.2	39.2	71.4
Health of Mother	31.6	13.9	45.5	64.0	20.9	84.9	34.3	35.7	70.0
Better economy of the family	18.4	16.7	35.1	9.3	10.5	19.8	21.7	11.9	35.6
Better education and future of children	23.7	22.2	45.9	12.7	19.7	32.4	9.6	12.5	22.2
For community & country	2.6	2.8	5.4	0.0	1.2	1.2	2.2	0.7	2.8
Total (N)			80			87			143

Table 54

THE FAMILY PLANNING METHOD 'R' EMPHASISED MOST BY TYPE OF DISTRICT

Method emphasised most	Bihar			Gujarat			Kerala		
	Good	Poor	Any	Good	Poor	Any	Good	Poor	Any
Vasectomy	32.6	37.0	34.3	9.4	87.9	39.5	40.6	32.9	36.7
Tubectomy	76.7	81.5	78.6	84.9	27.3	62.8	88.4	84.3	86.3
IUD	2.3	0.0	1.4	7.5	0.0	4.7	11.6	48.6	30.2
Others	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.7
Total (N)	43	27	70	53	34	87	72	71	143

* Percentages add to more than 100 because of multiple response

Similarly in Kerala, the IUD was emphasised much less in its good performing district (12%) as compared to its poor performing district (49%). Again the probes revealed that Malappuram which was taken as poor performing district, due to a larger proportion of Muslim population the permanent methods could not become the best choice. Hence in the district, along with sterilization, IUD was also given considerable weightage in their promotional efforts. It may not be out of place to mention that concentration of the efforts of the workers for promoting sterilization is only a reflection of the emphasis given by the programme managers to sterilization over other methods. It is a general practice that each worker is given a target for sterilization along with other methods. However, subsequently, in monthly meetings as well while evaluating the work performance of the workers, the highest

weightage is given to the achievement of sterilization. Therefore, the workers mainly concentrate their efforts to complete mainly their sterilization targets.

Supervision

The information on supervision was collected both through provider survey and indepth case studies. Overall, it appears that the supervision was better in Kerala, followed by Gujarat but poor in Bihar. On an average, a supervisor in Gujarat visited the field to look into the work of his subordinates/workers three-four times in a month (53%), followed by Bihar (35.4%). However, 1-2 supervisory visits per month appeared similar in proportion of workers who did so in Gujarat and Kerala (37% in Gujarat and 36% in Kerala). This was followed by a close proportion of supervisors in Bihar (31%). However, the quality of supervision in Gujarat and Kerala was better because of decentralization in posting of some of the supervisory staff. Under this scheme, the PHC area was divided into various health sectors and MPHSs were posted in each sector. The MPHSs were made responsible for the functioning of the workers in their respective sectors. Thus, the supervisors were available to the workers and they were available right at the place of their work.

Table 55

FREQUENCY OF CONTACT OF SUPERVISORS WITH THEIR WORKERS IN FIELD (AS REPORTED BY WORKERS)*

Frequency	Bihar	Gujarat	Kerala
Never	8.1	0.0	1.0
Less than once a month	12.9	0.0	1.8
1 - 2 times	30.6	37.3	36.0
3 - 4 times	35.4	52.9	33.6
5 - 6 times	3.3	5.9	12.8
7 - 8 times	6.5	3.9	9.4
9 and more times	3.2	0.0	5.4
Total(N)	60	51	110
Mean	3.0	3.0	3.7

* The responses of daily contact at the office between supervisors and workers were excluded from the analysis.

The routine monthly meetings at the PHCs were another way of supervising and monitoring the programme. In all the three states, it was reported at each PHC under study that the monthly meetings would take place regularly. However, we observed that generally in those meetings discussion was confined to the review of family planning programme and its target achievement. Hardly any discussion was held on other aspects of primary health care such as immunization, pre or post

natal care, malaria programme *etc.* Instead of using the monthly meeting to guide the workers in performing their work effectively by listening or solving their problems, the whole approach of the meeting was to pressurise the workers for achieving their targets. In Bihar, the monthly meetings were taken much more casually than in Gujarat and Kerala. During the indepth case studies in one of the PHCs of Bihar, it was observed that the monthly meeting was conducted by the BEE. In another PHC, the MO incharge came for few minutes. None of the other PHC doctors were seen attending the meeting.

The lack of two-way communication between the MO Incharge and the workers, observed in the monthly meetings in Bihar, was to some extent reflected between the immediate supervisors (BEE, LHV, MPW) and the field workers also. Even though most of the workers (86% to 100%) from all the three states were completely free with their immediate supervisors, majority of them from Bihar (66%) and Gujarat (84%) felt that they could not make suggestions or give recommendations to their supervisors for improving the functioning of the programmes. However, in the case of Kerala, the situation was much better as about 83 per cent of the workers reported discussion with their immediate supervisors on the ways and means of improving the performance of their PHCs.

On probing the immediate supervisors as to how they evaluate their field workers revealed that the supervisors of Kerala followed various ways to monitor their subordinates as compared to their counterparts in Gujarat and particularly in Bihar (Table 56).

Table 56
HOW WORKERS PERFORMANCE WAS EVALUATED?*

Method of Evaluation	(Percentage)		
	Bihar	Gujarat	Kerala
By verifying their records/by checking daily/weekly reports	37.5	31.8	68.0
By making field visits with them	25.0	31.8	44.0
By comparing with targets	-	27.3	52.0
By checking with clients	-	31.8	40.0
Others	50.0	27.3	32.0
Total (N)	16	23	26

* Percentages add to more than 100 because of multiple response.

In Kerala, apart from checking and verifying the records (68%) the supervisors wer regularly comparing the performance with the assigned targets (52%), making the field visits with the workers (44%) and checking with the clients themselves (40%) about the functioning and vists of the workers. About 32 per cent of the supervisors in Gujarat also adopted the method of field visits with the workers and checking

with the clients for monitoring and evaluating their workers. However, in the case of Bihar, the verification of records was relied upon most (38%) and only 25 per cent mentioned the field visits, whereas the checking with the clients as a method of evaluation of their subordinates' work was not at all reported by them.

However, various other methods (individual methods) were reported by the supervisors which together form a majority (50%) as against much less in Kerala, followed by Gujarat.

A detailed discussion with the doctors and the workers revealed that the situation with respect to supervision was much more complicated in Bihar. Most of the doctors, who were supposed to be the programme managers in the field, displayed total apathy towards supervision and they merely attributed the sad state of affairs to their lack of administrative control and power in rewarding or punishing any worker for his good or bad performance. One of the doctors from a tribal area of Bihar commenting on this said that at the most they could issue *memos* or 'show cause notices' but these would not have any impact on the workers as they would get it nullified by using local political influence. While the lack of administrative control and power was echoed in all the three states, it was more stronger in Bihar, where the interference of the political leaders in posting, transfers and even small disciplinary action against the workers, who were not functioning as per the norms, was told to be very common.

Level of Support from other Developmental Agencies

In order to see, how far the family planning programme in general and extension workers in particular get support from the formal and informal community leaders or developmental agencies, a series of questions were asked to the workers about their interaction and type of support they received from these leaders. The analysis of their responses indicate that in Kerala the family planning programme and its workers got relatively more cooperation and help both from formal and informal leaders as compared to Gujarat and Bihar. For example, in Kerala 25 per cent of the workers reported a lot of cooperation from BDOs in their field work as against 2 per cent in Gujarat and 9 per cent in Bihar (Table 57). In contrast, only 46 per cent of the workers from Kerala against 85 per cent and 73 per cent in Bihar and Gujarat respectively reported no cooperation and interaction with BDOs. Similarly, in the case of Talati, the workers from Kerala were getting the maximum support and the least for workers in Bihar. In Gujarat, Talati was found to be quite supportive to the programme. The percentage of workers reporting help from Panchayat in their family planning efforts was again highest in Kerala (84%), followed by Bihar (70%) and Gujarat (55%). It was significant to note that even the workers in Kerala were also getting support from the political leaders and about 41 per cent of the workers from Kerala reported receiving some help from the political

Table 57

COOPERATION FROM COMMUNITY LEADERS AND OTHER OFFICIALS IN FP WORK

Level of cooperation	(Percentage)		
	Bihar	Gujarat	Kerala
B.D.O.			
Never	72.5	84.9	46.2
Little	8.8	4.7	16.8
Some	10.0	8.1	11.9
Very much	8.8	2.3	25.2
Tehsildar			
Never	83.7	76.7	96.5
Little	11.2	5.8	0.7
Some	2.5	11.6	1.4
Very much	2.5	5.8	1.4
Talati			
Never	83.7	5.7	33.6
Little	5.0	10.3	11.9
Some	10.6	62.1	14.7
Very much	1.2	21.8	39.9
Panchayat			
Never	30.0	45.3	15.6
Little	-	-	-
Some	40.0	45.3	47.5
Very much	30.0	9.3	36.9
Political Leader			
Never	81.0	91.9	59.2
Little	-	-	-
Some	16.5	5.8	32.4
Very much	2.5	2.3	8.5
Total (N)	80	83	144

leaders against 19 per cent in Bihar and 8 per cent in Gujarat. Summing up the tables, it appears that in respect of the community support, the overall conditions appeared more conducive to family planning programme in Kerala, followed by Gujarat and the least in Bihar. However, the case studies from these states confirmed the case of Kerala. In Gujarat too, considerable support was observed at the community level for the family planning programme, especially from Panchayat and other community leaders. For example, in one of the PHCs of Baroda district in Gujarat, a BEE collected Rs.2 lakhs as donations from the community leaders and influential people of the area to use the proceeds for strengthening the educational campaigns for MCH and family planning by producing appropriate literatures, pamphlets and other publicity materials. Similarly, it was observed that the Panchayat and Taluka Development Officers were also playing an important role in

promoting family planning. For example, the Panchayats had instituted special family planning incentives. For example, in Dangs, a backward tribal district, the Taluka Panchayat was giving Rs.600/- for sterilization over and above the normal incentive of Rs.120/- per sterilization given by the Govt. of India.

They were also approaching industrialists and rich landlords for the contribution towards additional incentives and had taken initiatives to write letters to Taluka and village Panchayat presidents/members to take active part in the motivational efforts, particularly during the camps/family planning fortnights. Somehow, this seemed to be slightly in contrast with the responses of the workers on this matter. This difference could be due to lack of detailed probing during sample survey of the workers. In the case of Bihar, the findings from the case studies were again quite contradictory, as generally, no active support to the programme coming forth from any community leaders was observed. The contradiction could be due to the fact that the change-agents had tried to give more socially desirable answers than talking the truth.

CHAPTER 8

Change Agent—Client Interface

The characteristics and fertility regulating behaviour of the clients, i.e. the eligible couples and the characteristics of the change agents, i.e. the functionaries of the PHCs and their work style have been discussed at length in chapter 4 and 7 respectively. In the present chapter, the extent and nature of the interaction between the change agents and the clients have been discussed. How the clients and change agents perceive one another and how much trust the former reposes on the latter are crucial for the success of the programme? Bringing about changes in the fertility behaviour of the clients is a difficult task and could not be achieved through the workers who have low credibility in the community. It is only when the workers establishes his/her trustworthiness and people start believing that what advice and suggestions he/she gives are in their own interest, he/she begins to succeed. Some of these aspects have also been analysed and discussed in this chapter. The data collected from various sources including client survey, interview of functionaries and informal discussions during the case studies with the workers and people at large have been used for this purpose.

Change Agent-client Contact

To assess how often the change agents contact their clients for motivational efforts, each respondent was asked whether any worker had contacted him during the last six months and if yes how many times and how frequently. The analysis of their responses is presented in Table 58. As can be seen from the table, about 90 per cent of the respondents from Bihar and surprisingly, 60 per cent from Kerala reported no visit to their households by any family planning worker during the last six month period preceding the date of interview. In the case of Gujarat, the situation was much better where about 42 per cent households were visited by one worker and about 54 per cent were contacted by two or more functionaries during the same period.

The table also shows that these couples who were visited by the functionaries were on an average contacted by them 4 times in Bihar, six times in Gujarat and three times in Kerala. The table clearly indicates that while home visits were quite regularly done in Gujarat, they were almost non-existent in Bihar. The situation in Kerala was also not encouraging.

Table 58

**NUMBER OF FUNCTIONARIES CONTACTED AND FREQUENCY OF THEIR VISITS
DURING SIX MONTHS PRIOR TO SURVEY**

Functionary/visit	Bihar	Gujarat	Kerala
No. of functionaries contacted R or her family			
No one visited	89.5	4.2	60.1
One person	9.9	42.4	36.6
Two or more person	0.6	54.4	3.3
Total	642	646	640
Frequency of the visit made during last 6 months			
One	33.7	1.6	47.1
Two	39.8	7.6	19.7
Three or more	46.8	91.0	33.2
Total No. of doctors	73	618	256
Mean	3.9	5.8	3.0
S.D.	3.5	2.6	2.7

Considering the good family planning performance of Kerala, such a large proportion of couples not reporting visit of and family welfare worker since the last six months preceding the date of interview and relatively less number of visits performed by those who visited appeared somewhat surprising. It, perhaps, implies that the higher level of acceptance of family planning in Kerala is not so much due to the extension work or home visits of the workers but due to the social development characterised by higher literacy, better status of women and overall support for small family norm. In order to achieve small family norm, couples visit the health institutions on their own initiative without much depending upon the change-agents. Further, the availability of large number of private hospitals in rural Kerala also support above conclusion. According to available statistics, 80 per cent of the hospitals in Kerala are privately run and 60 per cent of them are located in rural areas. Easy accesibility of these medical institutions in rural areas has helped in increasing pre and post natal cares for mothers and institutional deliveries. The cummulative effects of such facilities have helped in reducing the child and infant mortality and increased the family planning acceptance in the state.

Sex of the Functionaries and the Persons Contacted

Table 59 presents analysis of sex of the functionaries vis-a-vis the persons contacted by them. The table shows that in all the three states about 70 to 80 per cent of the workers contacted the persons of their own sex. For example, in Bihar about 51 per cent male workers contacted male persons and another 21 per cent female workers contacted females.

Table 59

SEX OF THE FUNCTIONARY VIS-A-VIS SEX OF THE CLIENT CONTACTED

Sex of worker & the person contacted	Bihar	Gujarat	Kerala
Male-Male	50.6	32.6	14.1
Male-Female	22.1	22.4	15.9
Female-Male	6.5	6.9	3.2
Female-Female	20.8	38.1	66.8

Further, the table reveals that more male workers' visits were reported from Bihar (72.7%) and Gujarat (55.0%) and then Kerala (30.0%). If we compare these figures with the proportion of male field workers in the study PHCs, it appears that except in Bihar the female workers were more sincere in making home visits as compared to the male workers (Table 60). In Bihar, a larger proportion of the male workers as against their proportion in the PHC staff were reported to have been making home visits. The informal discussion with ANMs as well as doctors of this state revealed that due to security reasons the female workers tried their best to avoid field visits.

Table 60

PERCENTAGE OF MALE WORKERS IN PHCs AND AMONG THE FUNCTIONARIES WHO VISITED CLIENTS

Position	Bihar	Gujarat	Kerala
Percentage of male workers in PHC	63	64	54
Percentage of males among the functionaries making home visits	72	54	30

People's Opinion about the Usefulness of Workers' Visits

Table 61 shows that about 66 per cent respondents from Bihar, 47 per cent from Gujarat and 59 per cent from Kerala found visits of the workers as useful. The

Table 61

PEOPLE'S OPINION ABOUT THE USEFULNESS OF THE WORKERS' VISITS

Perception of people about visit of worker	Bihar	Gujarat	Kerala
Useful	66.2	47.3	58.7
Not so useful	33.8	52.7	41.3
Total (N)	72	618	256

remaining felt that the workers' visits were not so useful. According to many of them "they were doing the duties."

Here a note of caution should be made that in the case of Bihar, these calculations were done on a very small number of respondents, as almost 90 per cent had reported no visit of any worker.

People's Opinion about the Workers

All those couples who were visited by the workers were asked to mention their impression about the workers. As Table 62 shows, the majority of the respondents from all the three states felt that the workers were "good" persons. The proportion of such respondents was highest in Gujarat (94%), followed by Bihar (79%) and Kerala (61%). It is important to note that hardly anybody mentioned that they were "bad" persons. However, it is interesting to see that worker's own perception about the people's opinion about them was somewhat different (Table 63). For example, about 29 per cent of the workers in Bihar believed that most of the people think bad about them. The corresponding figures for Gujarat and Kerala were reported to be 2.4 and 11.9 per cent respectively. On the basis of the case studies, it was evident that the workers' perception, *i.e.* the people held poor opinion about them, is more closer to the reality at least in Bihar than the opinion expressed by the respondents. It could

Table 62

PEOPLE'S OPINION ABOUT THE WORKERS

Opinion	Bihar	Gujarat	Kerala
Good	79.2	93.8	60.5
Neutral	20.8	6.0	38.0
Bad	0.0	0.2	1.5
Total (N)	72	618	256

Table 63

PEOPLE'S OPINION ABOUT THE WORKERS AS PERCEIVED BY WORKERS

Opinion	Bihar	Gujarat	Kerala
All think good about workers	63.6	85.7	74.1
Some think good some bad	1.3	10.7	12.6
All or most think bad about workers	28.6	2.4	11.9
D.K.	6.5	1.2	1.4
Total (N)	77	84	145

be possible that during the formal interview the respondents did not want to be hasty in their responses and gave socially desired answers. However, at the time of the informal discussions with them during the case studies of PHCs, hearing the harsh words and expression of anger about the workers and the PHC doctors was not uncommon. Overall, the credibility of the field workers as well as PHC workers was very low in Bihar. The situation in Gujarat and Kerala was not that bad. Some of the typical comments about the PHC doctors and workers recorded are quoted below:

People's perception about the doctor

"He charges fee."

"He does not give any medicine but sells and asks us to purchase from the market."

"He is unsympathetic to patients."

Community perception about PHC/Sub-centre

"Nothing is available there."

"The staff are corrupt, they charge money."

"No proper facilities are available to the indoor patients."

"Medicines given from PHC/Sub-centre to us are of substandard."

"Why should we go to PHC, where we get *pani* (coloured mixture) and we have to wait for a long time to see the doctor. Govt. medicines are sold in the market to private doctors. Once Dr. 'X' of PHC consulted at his residence, gave me medicines costing Rs.18 for my one-year old child who had been suffering from dysentery. But the child was not cured. If you are short of even one rupee, the doctor will take the prescription and medicines back. He is a *chor* (thief). He had brought a new car by selling government medicines and doing private practice during PHC time".

Community perception about the worker

"No body, male or female has ever come to my house to talk about health or child care".

"She comes only during camp for family planning work."

"She charges money for every service."

"We do not approach ANMs for attending delivery or for that matter any help, because we know, they would not come or help without charging money. If you do not pay enough, they would not do any work satisfactorily".

“The doctor of PHC says himself, give some money. Request her (ANM), she will do your work. But the ANM asks more money why should we depend on her.”

Thus, overall, it appears that the PHCs and the workers did not have much credibility among the people. Its degree varied from state to state. While the distrust was very strong in Bihar, it was expressed less frequently and rather mildly in the states of Gujarat and Kerala. However, an observation which was common across all the states was non-availability or lack of supply of medicines from PHCs or Sub-centres. People generally believed that the doctors misused the drugs supplied by the Government by prescribing the drugs to their private patients and charged money. While it might be true in few places, the main reason for the inadequacy of medicines was the lack of financial resources. The allocated fund for a PHC towards drugs and supplies was so less that a PHC could get hardly even one-fourth of the required quantity of drugs. Further, as we observed during the case studies of the PHCs, the supplied drugs were often not need based (*i.e.* not depending on prevalent pattern of mortality/morbidity as they were purchased centrally and supplied to PHCs. All these taken together, contributed considerably to the decline in the credibility of the PHCs and consequently its utilization.

Problems faced by Change Agents & their Perceptions about the Clients

The perceptions of the change agents about their clients was assessed indirectly by asking each of them about the problems they faced in their field work. The analysis of their responses are presented in Table 64. As the table shows, about two-thirds of the change-agents in Bihar and Gujarat and almost all in Kerala mentioned one or the other field problems. Broadly, these problems could be divided into two categories — those related with infrastructure & logistic support and those related with the community/clients. Among the infrastructure related problems, inaccessibility of the work areas, either because of bad road or non-availability of transportation facilities, was mentioned by a significantly large proportion (ranging between 35% and 56%) of the workers. Inadequate logistic support in terms of supply of medicines/vaccines and staff or heavy work load was mentioned by a much larger proportion of the workers in Kerala than in Gujarat or Bihar (Table 64).

Among the community related problems, public apathy and lack of support to family planning programme was mentioned by many workers (24% in Bihar, 12% in Gujarat and 3% in Kerala). About 7 per cent in Gujarat and 5 per cent in Kerala also felt that people were hostile to the programme and it created problems in their work.

Many workers (5% in Bihar, 13-14% each in Gujarat and Kerala) believed that the illiteracy of people was a serious bottleneck in their promotional work. While

many of the problems mentioned by the functionaries could be true, the mention of illiteracy and apathy of the people towards the programme might be an intentional attempt to find an excuse for their failure in motivational work. Obviously, if the people were apathetic to the programme, it would mean that population problem was not felt in its true perspective by the people. This in turn would indicate that change-agents have not succeeded in changing the people's attitude or instilling in their minds the fears of adverse affects of the excessive population growth.

Table 64

FIELD PROBLEMS FACED BY THE WORKERS*

Problem	Bihar	Gujarat	Kerala
No difficulty	21.6	25.6	2.1
Infrastructure related			
Inaccessibility of villages particularly during rainy season	13.9	2.4	13.3
Lack of conveyance/ transportation facilities	41.8	32.9	35.7
Lack of adequate supply of vaccines/medicines	17.7	1.2	37.8
Lack of adequate staff/heavy workload	12.6	12.2	25.9
Others including non-availability of accommodation facilities	3.9	24.2	19.6
Community related			
Public apathy towards F.P./Lack of People's support to F.P. Programme	24.1	12.2	2.7
Hostility of people towards programme	1.3	7.3	4.9
Illiteracy of people	5.1	13.4	14.0
Fear of F.P. methods	3.8	1.2	2.8
Shyness/do not attend orientation camps and meetings due to their traditional outlook	2.5	4.9	1.4
Total (N)	64	64	117

* The percentages add to more than 100 because of multiple response.

CHAPTER 9

Summary Conclusions and Recommendations

Summary Conclusions

The present chapter gives summary findings on the functioning of PHCs in the rural areas of Bihar, Gujarat and Kerala. While studying the functioning of PHCs, attempt was made to understand the factors responsible for differential performance of the three states with respect to people's utilization of services provided by the PHC/Sub-center and the acceptance of family planning. The required information was generated by carrying out a large scale sample survey as well as indepth case studies of PHCs by participant observations in the three states. From each of the three states about 650 beneficiaries were selected from the four PHC blocks spread over the selected two districts. For the change agent survey covering the sampled PHCs about 80 functionaries each from Gujarat and Bihar and 140 from Kerala were interviewed.

The study reveals that the health education programme has yet not succeeded in imparting correct knowledge about the prevention of various diseases, like T.B., Whooping Cough, Cholera, Typhoid, Tetanus, Polio *etc.*

In the case of all the infectious diseases except 'Small Pox' and 'Polio' in Kerala, not even 50 per cent people were aware of the preventive measures (vaccines) for these diseases. In the case of Bihar, the situation was worst, except Tetanus, 75 per cent or more persons were not aware of the correct preventive measures for the other diseases which could be prevented through immunization.

Thus, one of the important causes for not utilizing the immunization services was unawareness about the vaccines. In the case of pregnant mothers, the situation was further complicated, particularly in Bihar because of the belief that during pregnancy the use of 'English' medicine (Allopathic) could be harmful to the foetus, as it was considered very 'hot' and 'strong'. This observation was further supported by the provider survey, in which the people repeatedly mentioned that the 'ignorance', 'illiteracy', 'traditional outlook' *etc.* were some of the reasons for not utilizing the immunization facilities provided by the PHCs and Sub-centres for the children and pregnant mothers. An analysis of the source of treatment for sickness shows that the best utilization of the PHCs was in Gujarat, where almost 67 per cent people were exclusively seeking medical assistance from the PHCs and Sub-centres. The

corresponding percentage was only 22 in Kerala, where a larger proportion (26%) of people because of good communication network, was directly going to the district/Taluka hospitals. In Bihar, only about 25 per cent of the people was entirely dependent on the PHC doctors. The proportion of people, who were always depending on the private doctors was highest in Bihar (54%), followed by 42 per cent in Kerala and 25 per cent in Gujarat. It is worth mentioning here that the low infant mortality in Kerala was not only due to better utilization of government services but because of the health consciousness and practice of seeking medical help from any source, government or private. The health consciousness of the people in Kerala was demonstrated by the fact that 75 per cent of the pregnant mothers in the state went for medical check-up (not necessarily to the government sources) as against only 52 per cent in Gujarat and only 33 per cent in Bihar. Most of the remaining respondents, when probed as to why they did not go for medical check-up anywhere, reported that there was no need to undergo any medical check-up during pregnancy period.

However, further probing to the clients, who were not utilizing PHC services reveals that in the case of the remote villages, distance, inconvenience in transportation because of lack of proper communication network and costs involved were the main reasons for not seeking the medical assistance from the PHCs and Sub-centres. In the case of PHC villages, the major reasons were lack of credibility of the government health services with respect to provision of effective medicines and availability of doctors at the PHCs/SCs. It was reported that they had to pay 'fees' and purchase medicines from outside even if they would go to the PHCs. The people complained that effective medicines were not provided and many times no medicines were provided due to their short supply. The other important reasons for not utilizing the PHCs/Sub-centres assistance was the bad behaviour of the workers and at times long waiting time. The indepth studies also confirmed many of the above findings. However, the degree varied from state to state. For example, charging of fee was rampant in Bihar, where the private practice was officially allowed after duty hours. Taking advantage of this, most of the doctors in Bihar did not come to PHC in time. Until as late as about 10 AM, they remained busy with their private practice at their residences, which in some cases were located within the premises of the PHC itself. Thus, the patients who wanted to get treated by the doctor, instead of waiting at the PHC and long waiting time, they paid fees to the doctor and got the consultation at his residence. In some of the PHCs in Gujarat and Kerala, where private practice was not allowed, the doctors silently charged the money by giving injections to the patients.

However, the major difference between Bihar and the remaining two states was the availability of doctors at the PHC during the OPD timings. In Bihar, the patients were never sure of the doctors' availability at the PHC whereas in the other two states it was certain that the doctor would be available during the clinic time. Hence in the case of Bihar the patients from far distant places, generally did not take chance to go to the PHC for treatment. As a result, the average daily turnout of patients in a PHC was

only 28 in Bihar as against 69 in Gujarat and 84 in Kerala. The waiting time to see the doctor was also much longer in Bihar which turned out to 69 minutes, 32 minutes in Gujarat and only 10 minutes in Kerala.

The analysis of the coverage of pregnant mothers under MCH care shows a marked difference in PHC/Sc and remote villages. For example, in Kerala, 49 per cent of the pregnant mothers in the PHC/Sc villages were immunized against tetanus as against only 21 per cent in remote villages. The corresponding percentages were 45 and 19 in Gujarat and 11 and 6 in Bihar respectively. In all the three states similar marked differences were observed between the PHC/Sc and remote villages in the case of iron and vitamin tablets, supply of nutritional supplements, assistance during delivery at home *etc.* A comparison among the states shows, on all these aspects, performance was relatively better in Kerala, followed by Gujarat and Bihar.

It is significant to mention here that 'institutional deliveries', *i.e.* deliveries at the PHC or Hospital (irrespective of government or private) were highest in Kerala sample (41%), followed by Gujarat (21%) and were least in Bihar sample (18%). Similarly, the proportion of mothers who were attended by well trained persons (private or government doctors, LHVs and ANMs) was highest again in Kerala (51%), followed by Gujarat (37%) and Bihar (21%). These two parameters once again point out better health consciousness among the people in Kerala than in the other two states and perhaps these were also responsible for the low infant mortality in Kerala. The proportion of pregnant mothers who were attended at the time of delivery by untrained personnel, like untrained *dais* and others was highest in Bihar (68%), followed by Kerala (47%) and Gujarat (45%).

An analysis of the coverage of children under various immunization services shows that the coverage in Gujarat was considerably better as compared to Kerala and Bihar. In Gujarat, about 50 per cent of the children were given small pox, polio and triple-antigen vaccines, about 83 per cent were covered under BCG, whereas in the case of Kerala children, the coverage or immunization against these diseases ranged between 25 and 40 per cent. In Bihar, except small pox, not more than 10-12 per cent children were immunized against the above mentioned diseases. In the case of small-pox, 25 per cent children were covered. The main causes of such poor performance of immunization programme in Bihar were non-availability of vaccines, particularly at the Sub-centres, which appeared almost non-functioning and with no special efforts on the part of the PHCs to organise antenatal and Baby Clinics as were being observed in Gujarat and Kerala. Further, a much higher level of ignorance or lack of knowledge on the part of the people of the state as compared to the other states about protection against these diseases had aggravated the problem and reduced the chances of availing the services provided by the PHCs and Sub-centres.

The analysis of family planning practices indicates that in all the three states knowledge of family planning was fairly high and the permanent methods were

universally known. On an average, every respondent knew three FP methods in Bihar and Gujarat and four in Kerala. Most of the people from all the three states approved in principle the use of family planning. The prevalence of family planning practices was equally higher in Gujarat and Kerala and was found to be about 58 per cent, while in Bihar the corresponding percentage was only 24. A further analysis by type of district shows that in all the three states the prevalence of family planning was significantly high in developed districts as compared to that of backward districts. For example, in Trivandrum, a developed district of Kerala, 74 per cent couples were currently practising family planning as compared to 43 per cent in Malappuram which is relatively a backward district of the same state. Similar difference was observed in Gujarat and Bihar also.

In Gujarat, the acceptance of family planning was considerably high (49%) even in the backward districts like Dangs. The reasons for such high acceptance was primarily the additional high incentives given in these districts. According to the discussions with MO incharge in Dangs, the State Government and District Panchayats were providing together Rs.600 as additional incentives over and above the Central Government's incentive (around Rs.150) to the acceptors of vasectomy and tubectomy. Thus, a total of about Rs.750 was offered to the acceptors of sterilization. Considering the poor economic conditions of the people of the area, this was a big amount for them for undergoing sterilization.

Apart from this, special incentives were also given to the staff including doctors, if the performance rate of the PHC was eight or more sterilizations per 1000 population per year. But such incentives were not offered to the people or the staff of the PHC neither in Bihar nor in Kerala.

The survey of the providers indicates that educationally, the functionaries from Kerala were the best, followed by Gujarat and Bihar. The providers of Kerala were better trained and larger proportion of them attended special training in family planning than their counterparts in Gujarat and Bihar. The analysis of family size norm of the workers shows that at personal level, the workers from Kerala had lower family size norm than Gujarat and Bihar. Generally, the workers in Bihar had a much larger family than in Gujarat and particularly in Kerala. Similarly, acceptance of family planning was also higher in Kerala (78%), followed by Gujarat (75%) and Bihar (59%). Thus, the workers of Kerala and to some extent Gujarat, at their personal level also, were more motivated towards family planning than the workers in Bihar.

The salary structure was found to be better in Kerala than in the other two states. For example, on an average, the monthly salary of the family planning extension workers in Kerala was Rs.732 as compared to Rs.662 in Gujarat and Rs.639 in Bihar. When it was adjusted for the duration of service, the difference became still more conspicuous as the duration of service was highest in the case of Bihar functionaries (mean: 14 years) and least for those in Gujarat (mean: 9 years). The field allowances

were also found to be lowest in Bihar. Thus, because of better salary structure and field allowances in Kerala and to some extent in Gujarat, the Department of Health Services was able to attract better educated and motivated grass-root level workers as compared to Bihar state.

The analysis of the place of residence vis-a-vis place of work shows that while all the workers in Gujarat were living at the work place about 25 per cent workers in Bihar and 30 per cent in Kerala were living outside the work place. While, because of better communication network in Kerala, living away from the work place was not posing serious problems to the workers to reach in time at the PHCs/Sub-centres, it was found to be causing serious problem in Bihar. People, who were living outside the PHC premises, spent considerable time and energy in commuting from the place of residence to the place of work and thus hampering the work and making themselves inaccessible to the people.

As the concentration of the population in villages was much higher in Kerala than in Gujarat and Bihar, the number of villages to be covered by each worker was found to be much less in Kerala (1 to 5 villages) than the workers in Gujarat and Bihar (10 or more villages). Further, the highly developed communication network in the state of Kerala was an added advantage to the workers while situation was just opposite in the case of Bihar. Thus, the workers in Bihar and to some extent in Gujarat had much difficult task in terms of travelling and area coverage than in Kerala. The situation was bad in Bihar where many of the villages were not accessible during the rainy season. Low level of field allowances further discouraged them from making scheduled field visits. Commenting on this, the MOs incharge of various PHCs of Bihar felt that with the lack of communication and transportation facilities, it was not possible for the workers to carry out properly the assigned jobs.

The analysis of the perceived roles and responsibilities of the workers shows that in all the three states, the workers laid emphasis mostly on the family planning motivational work, followed by immunization of children. The analysis further shows that the family planning follow-up work, care of pregnant mothers including their vaccination against tetanus and public health care measures like chlorination of wells, control of malaria, environmental sanitation *etc.* were not given due attention. However, Kerala was relatively better as compared to the other two states in providing integrated health services. Although the MPW scheme was functioning in Kerala and Gujarat for the last four to five years, the integration in real sense could not take place. The discussions with the workers and observations during the case studies indicated that while the family planning workers were happy with integration because it has increased their acceptability among the clients, other workers had reservation on the scheme as they had feeling that their workload was increased without any increase in the salary. As a result, the workers were allocating disproportionately their time to activities of their interest and neglecting the other important works.

The analysis about the supervision work shows that in none of the study areas supervision was found to be very good. However, still the sample PHCs from Kerala and Gujarat were relatively better off than that of Bihar. It was observed that while the majority of the workers in Gujarat (86%) and Kerala (71%) were able to follow their tour programme, in Bihar only 42 per cent were able to do so. The main reason for workers not following the preplanned programme was assigning of *ad-hoc* works to them by MOs incharge or their immediate supervisors. The Target Couple Registers (TCRs) were found to be reasonably updated in Kerala and Gujarat while it was not true in the case of Bihar.

The analysis regarding the field visits by supervisors shows that on an average, a worker was visited by his immediate supervisor only 3 to 4 times in a month. However, in Gujarat and Kerala the quality of supervision was better as it had been decentralized by dividing the entire PHC area into various health sectors and making one MPHS responsible for the workers in their respective areas. Thus, MPHSs were posted at Primary Health Units/Sub-centres within their assigned health sector rather than at the PHC head quarters. Such decentralization was found to be quite useful as his interaction with the worker increased considerably. In Bihar, MPW scheme was not yet fully implemented and also the supervision was generally done from the PHC headquartrs. A discussion with MOs incharge revealed that their lack of administrative powers in rewarding or punishing the good or bad worker respectively was another serious bottleneck for effective supervision. This problem was echoed by all the MOs incharge in all the three states. However, the degree of 'helplessness' of the doctors varied from state to state. It was maximum in Bihar, where involvement of political leaders in the day to day activities of the PHCs, like transfers, postings, protecting the workers against any action taken *etc.* was common and had resulted in creating total apathy among the supervisors and the doctors.

An analysis about the community support to the programme revealed that situation was much more conducive in Kerala and to some extent in Gujarat than in Bihar. In Kerala, the workers enjoyed lot of support as compared to the other two states from the formal and informal leaders of the community, like BDO, Tehsildar, Talati, Panchayat member and interesting also from the political leaders. However, in Gujarat, at district level, the leaders like Panchayat President provided their full support and extended help in achieving the family planning targets.

Recommendations

To improve the overall functioning of the PHC, it is essential to see the health and family planning programme in its totality, *i.e.* a more broader frame-work which includes both the programmatic and the socio-political structure and systems and the corrective measures are taken accordingly. Both these domains form a dicotomous framework of primary health care and are complimentary to each other. Whereas the earlier needs commitment of the programme people, administrators and policymakers at

each level for proper management, supply and logistics, the later needs continued support and involvement of the social and political workers in the programme and thereby community support.

However, in the context of this study findings, the following specific recommendations may be made which may prove useful for facilitating the utilisation of health and family planning services in the rural areas.

- i) The private practice of the PHC doctors, which is permitted in Bihar should immediately be stopped and they should be compensated with suitable non-practising allowance. This will help to improve their attendance at the PHC and Sub-centres.
- ii) It is essential to take immediate steps to decentralize the administrative power so that the doctors and other supervisory staff may use their discretion to reward or punish their subordinate staff. Such intervention perhaps would go a long way in improving the supervision work at the PHC.
- iii) The pay structure and field allowances of the workers and supervisors should be revised to make it lucrative so as to attract the motivated and better educated people to join the programme and also make them work sincerely. This is much more required in Bihar, where the salary for the same type of post is considerably lower than that in Kerala and Gujarat.
- iv) As suggested by the doctors and other supervisory staff, the area assigned to ANMs and other extension workers, in the absence of proper communication network and transportation facilities, seems to be unrealistic and hence steps should be taken either to provide them better transport facilities or to reduce the assigned areas by providing more manpower. That is, while working out the manpower requirements, the density of population in different areas should be looked into rather than confining to the population criterion.
- v) As doctors had suggested, the ANMs and the other extension workers should be provided reorientation training for FP work including training in communication and motivational work. The ANMs should also be given practical training for inserting IUDs.
- vi) As far as possible, a lady doctor should be posted and the required facilities for conducting tubectomy and MTP should be provided at the PHC.
- vii) Non-availability of proper accommodation for doctors and other supportive staff in the PHC village and for ANMs at the Sub-centres affect the morale of the staff adversely. It was observed that many of the ANMs were living in big villages or nearby towns where housing facilities were available and their personal security was ensured. Thus, they were not staying near their place of work. This affected adversely their functioning as major portion of their time was lost in

travelling from residence to sub-centre and back. It is suggested that immediate steps should be taken to provide proper accommodation to the staff at the place of work.

- viii) Adequate supply of medicines and Immunization vaccines should be ensured. It was observed that in view of inadequate supplies there was a tendency of keeping large proportions of medicines and vaccines at the PHC itself and releasing a limited stock to sub-centers. Because of bad communication network and large distances of PHCs the clients' accessibility to sub-centres situated in their areas is comparatively easier. Thus, more emphasis should be given for adequate supply of medicines and vaccines to sub-centers. It is all the more important because the "catchment area" of the PHC was found largely confined to three km. radius.
- ix) The frequent non-availability of required medicines at the PHC and Sub-centres, is an important factor contributing to the credibility of doctors and Government Health Services. More often than not, people believe that even though the Government supplies all medicines, doctors instead of giving to patients, sell them in the market. In some cases it might be true but in majority cases it is not. Thus, there is an urgent need to remove such misconception and to educate people that government cannot afford to provide all medicines free of cost and that supply of drugs to PHCs and Sub-centres is quite limited*. One of the ways could be to display the list of the medicines supplied to PHCs and Sub-centres and the message that people have to share financial responsibilities for their treatment particularly for the purchase of medicines.
- x) It might be worthwhile to extend in other states also an incentive scheme similar to that of Gujarat, where all the F.P. staff and doctors of a PHC were being provided with special incentives if its family planning performance exceeded the fixed yearly target.
- xi) So far the incentives are associated with only family planning programme. On experimental basis, it may be extended to immunization and MCH programmes also. However, the proposed incentives should be offered only to the workers and not to the beneficiaries.
- xii) In Bihar, the CHV scheme was abandoned. Kerala did not implement it. Immediate action should be taken to revive this scheme in Bihar and introduce in Kerala. As far as possible, female CHVs should be chosen and trained following the criteria of the revised and renamed scheme, viz. Village Health Guide (VHG) scheme. The success of the VHGs would depend on their right selection and regular supply of medicines to them. To attract female candidates, as VHGs, the

* It is estimated that supply of drugs to PHCs/Sub-centres is only about one-tenth of the actual requirements.

venue of training should be shifted from PHCs to Sub-centres so that the normal life of the VHGs during the training may not be disturbed.

- xiii) By and large, currently there are no formal or even informal links between PHC staff and other village practitioners, who serve almost 80 per cent of the patients in the block. Attempts should be made to establish a link with them in such a way that they should complement rather than compete with public health services. Experiment in Bangladesh has shown that the rural practitioners could be effectively used in promoting family planning and taking MCH care (including immunization) at the door step of the needy people.
- xiv) To make the people aware of the services available at the PHCs and Sub-centres free of cost, hoardings with the list of facilities being offered at the centres written in the local language may be displayed.

As regards the non-programmatic parameters in the states particularly, those related with the existing socio-political system in the states, not much can be discussed at this juncture since the scope of this study was limited to the PHC functioning. However, it may be said that only strengthening the primary health care infrastructure in terms of physical facilities, men and material would not make the desired impact and hence a stable political will at the centre and state levels seems very essential. The health as a state subject and family planning depending on only Central Government resources loose often the very ground of priority whereas the political events and other issues get top most priority both at the Centre and the State levels. In such a situation of non or partial belongingness to the very base of human resource development and quality of life, *i.e.* the health & family planning distorts the very concept of health and even the available resources are not properly channelled by the programme people for their increased utilization by the people at large. What is needed at the socio-political level in order to take this situation is a continued concern and dialogue between the social and political leaders at all levels and thereby sensitizing the people. If the social and political consciousness increases and coincides, the services delivery system and utilization would improve.

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